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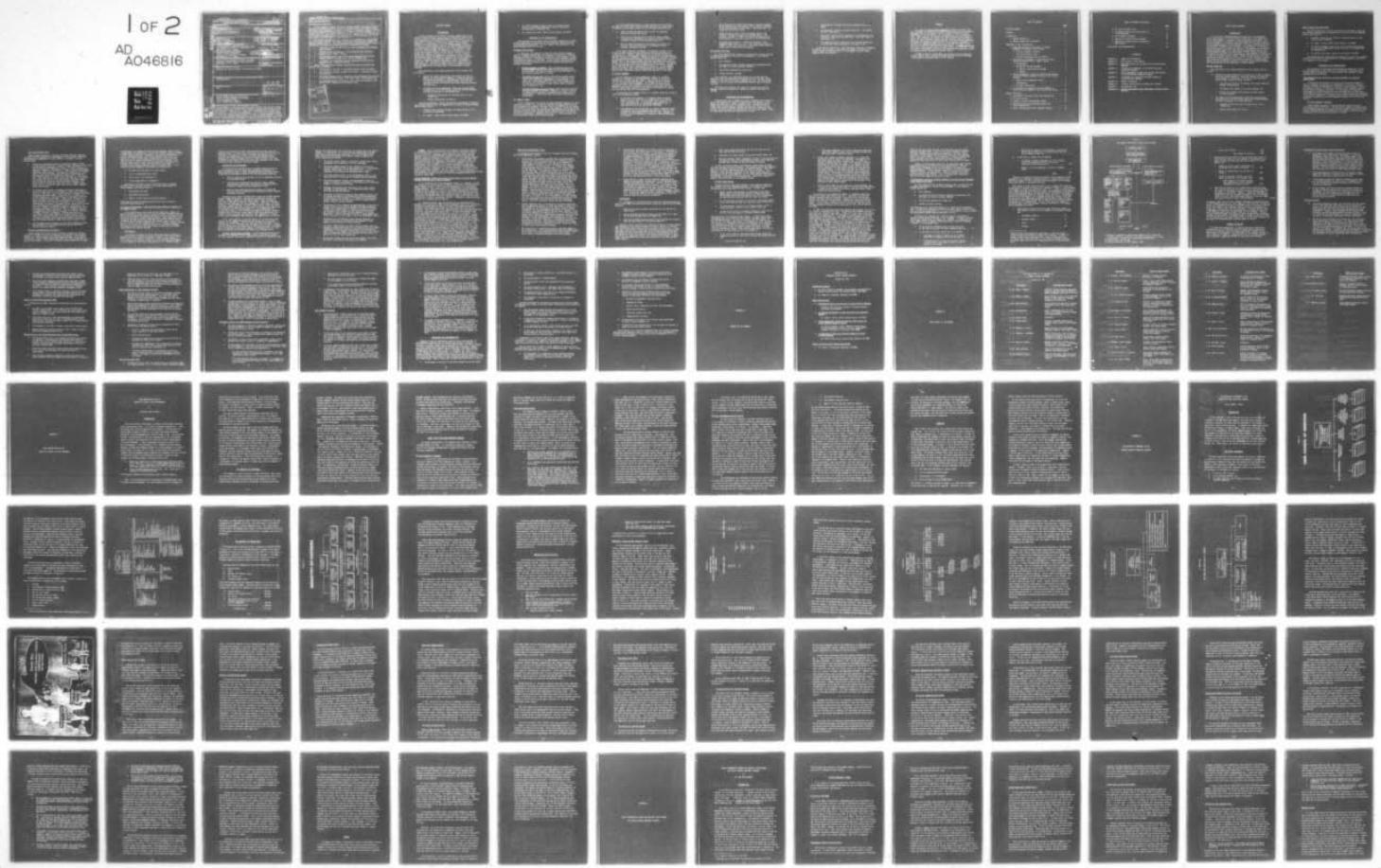
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consuming, and demanding.

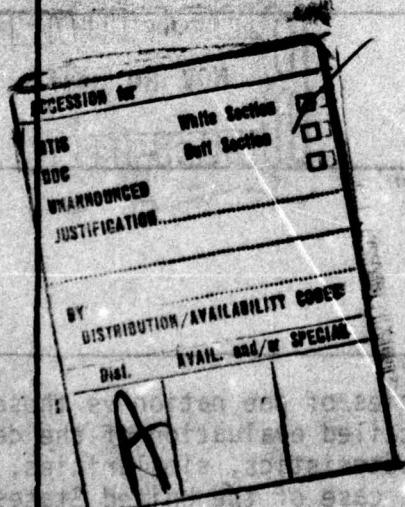
In this context, a seminar on Soviet defense manpower was planned and conducted by the General Electric Center for Advanced Studies (GE-TEMPO) for the Director of Net Assessment, Office of the Secretary of Defense (OSD/NA), and the Assistant Secretary of Defense, Manpower and Reserve Affairs (ASD/M&RA) on January 28, 1977. The overall objectives of this seminar were to highlight some of the major problems involved in assessing Soviet defense manpower and to discuss some of the approaches to these problems. ←

This report presents not only a summary of the highlights of the seminar, but also some conclusions with regard to problems and issues which appear to warrant further research. The panel presentations which served as the basis of the general discussion during the seminar are identified as follows:

- "Some Observations on the Quality of Soviet Manpower" by Professor John Erickson,
- "An Overview of the Manpower in the Soviet Military-Industrial Complex" by Mr. James T. Reitz,
- "Soviet Demographic Trends and Possible Implications for Soviet Defense Manpower Planning" by Dr. Murray Feshbach, and
- "A Technique for Assessing Selected Elements of Soviet Military Manpower" by Ms. Harriet Fast Scott.

Some of the major Soviet problems identified during the course of the seminar were as follows:

- The decrease in the pool of available manpower during the 1980s;
- The concurrent increase in ethnic minorities -- the Central Asians, in particular;
- The overall quality (skill, education, and performance) and stability of the Soviet officer corps -- the lower ranks, in particular; and
- The underlying morale, motivation, and ultimate performance of the Soviet troops themselves in the event of war.



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EXECUTIVE SUMMARY

INTRODUCTION

No net assessment of the overall military capabilities of one nation vs those of another nation would be meaningful without a detailed evaluation of the defense manpower of both nations -- their major characteristics, similarities, dissimilarities, strengths, and weaknesses. In the case of the United States, the collection, analysis, and organization of data on defense manpower tends to be a relatively straightforward process, but Soviet defense manpower is seldom studied in depth because the process is generally quite difficult, time-consuming, and demanding -- particularly in view of the secrecy which normally shrouds matters pertaining to the defense and internal security of the U.S.S.R. In this context, a seminar was planned and conducted by the General Electric Center for Advanced Studies (GE-TEMPO) for the Director of Net Assessment, Office of the Secretary of Defense (OSD/NA), and the Assistant Secretary of Defense, Manpower and Reserve Affairs (ASD/M&RA) on January 28, 1977. The overall objectives of this seminar were to highlight some of the major problems involved in assessing Soviet defense manpower and to discuss some of the approaches to these problems.

More specifically, the stated objectives of this seminar were to discuss:

- Factors and trends pertaining to the quality, as well as numbers, of Soviet defense manpower -- where the subject of Soviet defense manpower is considered to include not only the highly visible order-of-battle forces, but also the much more difficult to identify and assess supporting defense infrastructure.
- The impact of Soviet demographic trends and the continuing militarization of Soviet society upon Soviet defense manpower problems and options, to include possible:
 - Attendant difficulties for the Soviet Union in the future, and
 - Related implications for the U.S.

With these objectives in mind, the seminar was designed to highlight the insights, observations, and suggestions of a panel of Soviet manpower experts consisting of:

- Professor John Erickson, Director of Defense Studies at the University of Edinburgh;
- Mr. James T. Reitz, Senior Soviet Analyst, GE-TEMPO;

- Dr. Murray Feshbach, Chief of the U.S.S.R./East Europe Branch of the Foreign Demographic Analysis Division in the Department of Commerce; and
- Ms. Harriet Fast Scott, Senior Soviet Analyst, GE-TEMPO.

HIGHLIGHTS OF THE PRESENTATIONS

The highlights of the seminar may be generally summarized in terms of the presentation of each panelist and the general discussion which followed these presentations. In this context, the highlights of the panel presentation are as follows:

Professor John Erickson

In discussing the problems of studying Soviet defense manpower in light of language, terminology, and conceptual difficulties, Professor Erickson stressed the importance of acquiring an understanding of Soviet terminology so that it is possible to perceive Soviet manpower problems as the Soviets themselves view them. He then defined and discussed the following three major categories of military manpower problems which confront the Soviets:

- Military manpower in general, which includes the nature of Soviet manpower entering the Armed Forces, problems of cost and efficiency, the stamina of Soviet military personnel, and the military profession as a career;
- The Soviet officer corps, which includes the growing Soviet concern with respect to improvements in the tactical, technical, and professional competence of Soviet officers -- in particular, the advantages vs the risks to the Armed Forces and the Party of giving the Soviet officer corps a "massive dose of education"; and
- Military performance and utilization, which constitute the most difficult category of problems, especially in terms of trying to understand the meaning of standard Russian terms, such as objectiveness -- which could mean efficiency, effectiveness, or efficacy.

Mr. James T. Reitz

In his discussion of the Soviet military-industrial complex, Mr. Reitz presented an insight into a series of selected government agencies which have contributed in the past, and seem likely to contribute in the future, to the overall Soviet military posture. These agencies include the Soviet Ministry of Defense (MoD) and such non-MoD organizations and systems as the KGB border troops and MVD internal troops, the militia or civil police, national transportation, communications, and public health systems, and the counterintelligence activities of the KGB.

Mr. Reitz observed that many of these non-MoD activities (which are mostly service, rather than production, oriented) are either wholly or partially militarized in terms of the following characteristics:

- They are armed and have wartime, as well as peacetime, missions to assist MoD forces;
- The units are distinguished by uniforms, ranks, grades, organizational structures, and codes of discipline similar to those in regular military organizations; and
- Most of these organizations have separate facilities and services, such as professional and dependent schools, housing, and medical services.

As Mr. Reitz observed, the numbers of personnel involved in the various non-MoD military activities which he discussed probably run in the millions. However, these figures do not include the huge part-time efforts of Soviet manpower involved in premilitary training programs and the interwoven, overlapping, nationwide complex of voluntary societies for cooperation with one or another of the Soviet Armed Forces, such as DOSAAF. All of these organizations make some contribution to the Soviet military and to the overall militarization of Soviet society. Conversely, all of them represent a military-related burden on the Soviet economy. Hence, the level of their contributions to Soviet defense and internal security and their cost to the Soviet economy will continue to remain obscure until additional research efforts are applied to these areas.

Dr. Murray Feshbach

In his discussion of Soviet demographic trends, Dr. Feshbach stressed the importance of interdisciplinary efforts as the key to the analysis of broad, complex issues -- such as the net assessment of U.S. and Soviet defense manpower. He contends that the Soviets will be confronted with a manpower crisis during the 1980s because demographic shifts and constraints are going to precipitate political, military, and economic pressures in the Soviet Union beyond any degree that the Soviets have thus far encountered.

In discussing the projected crisis, Dr. Feshbach cited the following significant demographic trends:

- By the end of the century, it is expected that the Soviet growth rate will drop from its present rate of 1% (1966 to 1970) to around 0.6%. In the Central Asian republics, however, the growth rate is increasing dramatically (e.g., approximately 40% during the period 1959-1970).
- With respect to the Soviet Union as a whole, "over-age" people represented 10% of the aggregate population in 1950, but will increase to approximately 20% by the year 2000. However, in Central Asia, the proportion of persons in the over-age group will decline.

- Due to World War II, women have become an important segment of the working force; for example, they currently constitute 30% of the construction labor force -- performing both construction and clerical duties.
- Within the Soviet Union, there are between 100 and 140 different nationality groups and language groups. This presents a problem in light of the declining proportion of Great Russians in the total population of the Soviet Union.
- During the past 2 years, a significant increase in the aggregate death rate (i.e., by 0.6 per 1000) and a major increase in infant mortality (i.e., from 22 per 1000 in 1971 to 28 per 1000 in 1974) have been observed.

Ms. Harriet Fast Scott

Ms. Scott described the "iceberg" technique that is being utilized in ongoing assessments of Soviet military manpower in such defense-related sectors as:

- Civil defense;
- The Soviet All-Union Voluntary Society for Cooperation with The Army, Air Forces, and Navy (DOSAAF);
- The military commissariat system; and
- Initial military training.

This technique is so identified because it is based upon the assumption that, by identifying the general officers and other senior officers at the top of a military organization (i.e., the "tip of the iceberg"), one can project the organization beneath them and estimate its size.

Utilizing this technique, Ms. Scott has estimated the military manpower involved in Soviet Civil Defense as being in the order of 100,000.

CONCLUSIONS AND RECOMMENDATIONS

Although there was no attempt to attain a consensus with regard to any of the problems and issues discussed during this seminar, it did appear that there was a general consensus that, although the Soviet Armed Forces do constitute a formidable threat, the Soviets are not without some serious manpower problems which warrant continuing study in order to better assess the implications for the United States. Some of these major problems were identified as follows:

- The decrease in the pool of available manpower during the 1980s;
- The concurrent increase in ethnic minorities -- the Central Asians, in particular;
- The overall quality (skill, education, and performance) and stability of the Soviet officer corps -- the lower ranks, in particular; and
- The underlying morale, motivation, and ultimate performance of the Soviet troops themselves in the event of war.

In the case of some of the issues discussed, there was a divergence of opinion, and the panel presentations and general discussion also raised a number of questions which, it was agreed, warrant further investigation and discussion.

FOREWORD

This report on Soviet Defense Manpower provides an insight into the proceedings and results of a seminar conducted by the Net Assessment Programs Office of the General Electric Center for Advanced Studies (GE-TEMPO) at 777 14th Street, N.W., Washington, D. C. on January 28, 1977. Taken together, the seminar and report constitute one element of the FY 1977 net assessment program for the Director of Net Assessment, Office of the Secretary of Defense (OSD/NA), and the Assistant Secretary of Defense for Manpower, Reserve Affairs, and Logistics (ASD/MRA&L), on U.S./U.S.S.R. defense manpower under contracts DNA 001-75-C-0075 and DNA 001-77-C-0168 with the Defense Nuclear Agency. A summary version of this report with the same title, but identified as GE 77 TMP-18A, is also available to interested individuals from the Defense Documentation Center at Cameron Station, Alexandria, Virginia 22314.

GE-TEMPO gratefully acknowledges the guidance and assistance provided by Messrs. Peter Sharfman of OSD/NA and David Smith of ASD/MRA&L in the planning and preparations for this seminar.

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SOVIET DEFENSE MANPOWER

INTRODUCTION

In this age of technology wherein the apparent, and undoubtedly vital, preoccupation is "building better mouse traps", the importance of the human element -- manpower -- may oftentimes be subordinated. Yet, no net assessment of the overall military capabilities of one nation vs those of another nation would be meaningful without a detailed evaluation of the defense manpower of both nations -- their major characteristics, similarities, dissimilarities, strengths, and weaknesses. In the case of the United States, the collection, analysis, and organization of data on defense manpower tends to be a relatively straightforward process, but Soviet defense manpower is seldom studied in depth because the process is generally quite difficult, time-consuming, and demanding -- particularly in view of the secrecy which normally shrouds matters pertaining to the defense and internal security of the U.S.S.R. In this context, a seminar was planned and conducted with the overall objectives of highlighting some of the major problems involved in assessing Soviet defense manpower and discussing some of the approaches to these problems.

Seminar Objectives

More specifically, the stated objectives of this seminar were to discuss:

- Factors and trends pertaining to the quality, as well as numbers, of Soviet defense manpower -- where the subject of Soviet defense manpower is considered to include not only the highly visible order-of-battle forces, but also:
 - The much more difficult to identify and assess supporting defense infrastructure,
 - The burden with respect to the Soviet economy, and
 - Options and tradeoffs with respect to other sectors of Soviet society.
- The impact of Soviet demographic trends and the continuing militarization of Soviet society upon Soviet defense manpower problems and options, to include possible:
 - Attendant difficulties for the Soviet Union in the future, and
 - Related implications for the U.S.

Seminar Agenda and Participants

With these objectives in mind, the seminar was designed to highlight the insights, observations, and suggestions of a panel of Soviet manpower experts consisting of:

- Professor John Erickson, Director of Defense Studies at the University of Edinburgh;
- Mr. James T. Reitz, Senior Soviet Analyst, GE-TEMPO;
- Dr. Murray Feshbach, Chief of the U.S.S.R./East Europe Branch of the Foreign Demographic Analysis Division in the Department of Commerce; and
- Ms. Harriet Fast Scott, Senior Soviet Analyst, GE-TEMPO.

The presentations of these panelists served as the basis for a general discussion with the other participants in the seminar, who are identified in an appendix to this report.

HIGHLIGHTS OF THE PRESENTATIONS

The highlights of the seminar may be generally summarized in terms of the presentation of each panelist and the general discussion which followed these presentations. In this context, the highlights of each presentation are as follows:

"Some Observations on the Quality of Soviet Manpower" by Professor John Erickson

In discussing the problems of studying Soviet defense manpower in light of language, terminology, and conceptual difficulties, Professor Erickson stressed the importance of acquiring an understanding of Soviet terminology so that it is possible to perceive Soviet manpower problems as the Soviets themselves view them. In this context, he urged the development of a simple glossary of Soviet manpower and training terms, which would obviously be quite useful to U.S. analysts and, quite possibly, to the Soviets themselves. Professor Erickson next discussed the following three major categories of military manpower problems which confront the Soviets:

Military manpower in general

These problems are easy to discuss with the Soviets and do not involve any great difficulties. The spectrum of subjects included within this category encompasses the nature of Soviet manpower entering the Armed Forces, problems of cost and efficiency, the stamina of Soviet military personnel, and the military profession as a career.

The Soviet officer corps

These problems constitute a narrower, but more difficult, spectrum to assess from the standpoint of improvements in the tactical, technical, and professional competence of Soviet officers. Professor Erickson observed that:

- The Soviets are confronted with a long-term dilemma in terms of developing officers with "culture" who may subsequently be at odds with the Soviet Government and society. The term "culture" is used in the sense of reflecting an officer's overall performance, potential, capability, and utility -- both to the military system and to the Soviet society. The pattern of education for Soviet officers is now well established and implies simply more and more education until it "comes out of their ears." In this context, the young Soviet officer should not feel that his options are limited, but that his "tactical horizon" has been widened and his tactical dexterity and effectiveness improved. This "massive dose of education" might well serve a number of purposes, but it also entails great risks and may simply compound Soviet difficulties.
- The Soviet junior officer is perhaps the hardest worked man in the Soviet Armed Forces, and he spends 12 years being educated -- which is a long time. But, in their search for greater efficiency throughout the Armed Forces, the Soviets are, in effect, depriving themselves of the very services of the people whom they need to produce this efficiency. These junior officers are being constantly pushed by the system and are given work loads which are really very difficult to satisfy. It is a brutal, hard-driving, and actually fearsome life for these junior officers due to shortcomings in equipment, technical proficiency, and training. However, the Soviets attempt to compensate for these shortcomings by sheer brute drive. This is a general problem throughout the Soviet Armed Forces which is certainly reflected in Marshal Kulikov's statements. Although the Soviets are well aware of the stress under which a Soviet junior officer labors, the numerous problems in his career, and the threat to his family structure, there seems to be a marked reluctance to deal with these problems in other than the most general terms.
- Our knowledge of East European military establishments provides good insights into the Soviet officer corps and the Soviet military system in general.

Military performance and utilization

These problems constitute the most difficult category of problems -- especially in terms of trying to understand the meaning of the standard Russian term, objectiveness, which could mean efficiency, effectiveness, or efficacy. Soviet officers themselves admit that they do not know just what this term means. Once again, Professor Erickson emphasized the need

to understand the language of Soviet military manpower practices and, in particular, the terminology of social and technical usage, the degree to which their terminology is technical, and to what degree much of it is just unlearned verbiage. The Russian language lends itself very readily to a kind of easy bombast, and there is a sort of Russian Hegelianism which seems to encourage this involved verbiage. Once into this area, you're forced to follow the train of discussion and problems like a musical score, and the Soviets are constantly "switching keys" and you constantly have to "de-code" them. In this context, one must repeatedly ask himself such questions as:

- Are they using the term in a social sense?
- Is it a technical/military term?
- Has he read it in literature? or
- Is he accomplished or incompetent?

Nonetheless, Professor Erickson feels that there is adequate evidence, both direct and indirect, to initiate some analyses of Soviet manpower utilization; that is:

- How wasteful are they?
- How effective are they?
- What is it that they are trying to improve?

These questions might be addressed particularly well in terms of microunits and microtactics.

"An Overview of Manpower in the Soviet Military-Industrial Complex" by
Mr. James T. Reitz

In his discussion of the Soviet military-industrial complex, Mr. Reitz presented an insight into a series of selected government agencies which have contributed in the past, and seem likely to contribute in the future, to the overall Soviet military posture. These agencies include the Soviet Ministry of Defense (MoD) and such non-MoD organizations and systems as the KGB border troops and MVD internal troops, the militia or civil police, national transportation (i.e., railway, highway, merchant marine, river fleet, oil pipeline, and civil air transport) systems, the communications system, the public health system, and the counter-intelligence activities of the KGB.

MoD Manpower

In discussing the MoD, Mr. Reitz stated that Western observers, in open publications, estimate the current strength of the Soviet Armed Forces to be in the order of 3,575,000. In his opinion, however, this figure is low, because it does not include satisfactory estimates of such elements of the Soviet Armed Forces as civil defense troops,

railway and construction troops, road construction troops, and oil pipeline troops. Mr. Reitz also stated that the ratio of MoD civilians, uniformed or otherwise, to troops is another very nebulous, but important, area because MoD civilian and military personnel (either separately or jointly) manage literally hundreds of activities, such as manufacturing plants, collective farms, post exchanges, book stores, libraries, clubs, sanatoria, and tourist camps.

Non-MoD Militarized Manpower

In discussing the selected group of non-MoD military activities (which are mostly service, rather than production, oriented), Mr. Reitz observed that many of these non-MoD activities are either wholly or partially militarized in terms of the following characteristics:

- They are armed and have wartime, as well as peacetime, missions to assist MoD forces;
- The units are distinguished by uniforms, ranks, grades, organizational structures, and codes of discipline similar to those in regular military organizations; and
- Most of these organizations have separate facilities and services, such as professional and dependent schools, housing, and medical services.

According to Mr. Reitz, the KGB border troops and the MVD internal troops, though categorized in the West as paramilitary forces, are actually integral elements of the Soviet Armed Forces and number in the order of 200,000 and 230,000, respectively. These elite bodies of troops are well-equipped with such equipment as light armor, artillery, transport, armored personnel carriers, light aviation, and river craft. Both KGB and MVD troops have a long record of loyalty to the regime and of repressing their fellow countrymen. Mr. Reitz emphasized the all-pervasive quality of KGB counterintelligence and internal security elements which constitute a huge, semi-militarized organization with a system of ranks and grades and tentacles that penetrate all sectors of the Soviet Government, administration, the Armed Forces, and society.

As Mr. Reitz observed, given the overall size of the Soviet population, the far greater Soviet police activities, and the Soviets' penchant to "featherbed", a militia body 2-2½ times the number of U.S. paid policemen (i.e., 400,000) does not appear to be unlikely. Another militia-like body that he identified is the militarized MVD Fire Command, which is organized in battalion, company, and platoon-sized units and maintains working contacts with the Soviet civil defense staffs.

National Transportation Systems. In describing the functions and manpower of a spectrum of Soviet federalized transportation systems, Mr. Reitz observed that most of these activities are militarized to some

degree, have hierarchical rank structures, and possess their own school systems. To some extent, all of the national transportation systems participate in the day-to-day operations of the Soviet Armed Forces. Other significant observations with regard to these systems may be briefly summarized as follows:

- The Soviet railway system is the world's largest under single management with a reported 2.5 million employees;
- The Soviet highway system is less important for military logistic support than the railway system, but it is of growing tactical significance in the short-haul field -- as was evidenced in the invasion of Czechoslovakia in 1968;
- The Soviet merchant fleet is now approximately fifth in size among the world's fleets with an estimated 290,000 employees;
- The Soviet merchant, fishing, and oceanographic fleets all engage in extensive collection of intelligence and in providing support for subversive activities;
- Although little publicized, the Soviet river fleet, with an estimated 115,000 employees, still handles more bulk cargo than does the merchant marine;
- The Soviet oil pipeline system has been expanding rapidly, and of extreme importance in any Warsaw Pact military operations within Europe is the "Druzhba" or "Friendship" pipeline which extends from deep within the Soviet Union to Czechoslovakia, Hungary, Poland, and East Germany;
- The Soviet civil air transport system (Aeroflot) is the world's largest single airline with an estimated 300,000-400,000 employees and, although Aeroflot handles only about 0.5 percent of the total Soviet freight, it does have obvious tactical and strategic significance from the standpoint of military operations -- such as the recent airlifts of large numbers of Soviet conscripts to the Groups of Soviet Forces/Germany (GSFG);
- The Soviet Civil Air Ministry, which controls Aeroflot, is itself militarized and uniformed and for decades has been headed by active Soviet Air Forces officers;
- The Soviet communications and public health systems, which are estimated to employ more than 7 million people, are quite highly regimented and provide significant support to the Soviet defense sector -- for example, the MoD uses the civil wire system from its headquarters down to the military district level, in addition to its own radio system; and
- Soviet public health services and military medical facilities have had a close working relationship for decades.

Summary. As Mr. Reitz observed, the numbers of personnel involved in the various non-MoD military activities which he discussed probably run in the millions. Moreover, these figures do not include the huge parttime efforts of Soviet manpower involved in premilitary training programs, which are mandatory for students, or the civil defense program, which is mandatory for almost all Soviet citizens. Also excluded from his discussion were the interwoven, overlapping, nationwide complex of voluntary societies for cooperation with one or another of the Soviet Armed Forces, such as DOSAAF. All of these organizations make some contribution to the Soviet military and to the overall militarization of Soviet society. Conversely, all of them represent a military-related burden on the Soviet economy. The full level of their contributions to Soviet defense and internal security and their full cost to the Soviet economy will continue to remain obscure until additional research efforts are applied to these areas.

"Soviet Demographic Trends and Possible Implications for Soviet Defense Manpower Planning" by Dr. Murray Feshbach

In his discussion of Soviet demographic trends, Dr. Feshbach stressed the importance of interdisciplinary efforts as the key to the analysis of broad, complex issues -- such as the net assessment of U.S. and Soviet defense manpower. An analysis which is limited solely to the demographic perspective of an issue, or solely to the economic perspective, or solely to the military perspective, flies in face of the fact that the clearest view of an issue emerges when these disciplines work in combination. The implications of the most broad and important issues extend into the realm of political, military, and economic factors. Therefore, interdisciplinary analyses will produce the best results.

Dr. Feshbach contends that the Soviets will be confronted with a manpower crisis during the 1980s because demographic shifts and constraints are going to precipitate political, military, and economic pressures in the Soviet Union beyond any degree that the Soviets have thus far encountered. Until the present time, population and labor have been considered virtually free goods in the Soviet Union. The Soviet Government could obtain the number of people it desired at any time, in any place. This is no longer true and will definitely not be true in the 1980s. However, in order to place this forecast in proper context, one should have some appreciation of the profound demographic catastrophes which the Soviets have suffered since 1917. In 1917, there were 160 million people residing in the land area bounded by the Soviet Union's current borders. If one takes an average figure of 2% per year as a growth rate, then, by 1975, the population of the Soviet Union would have totalled 494 million. Compare this with the proud announcement by the Soviet Government in August 1975 that there were 250 million people living in the U.S.S.R. In other words, the current population of the Soviet Union is only about 50% of what it would have been in the absence of such demographic catastrophes as the First World War, foreign interventions, the Civil War, famine, epidemics, collectivization, purges, and the Second World War. Of all of these, the Second World War was particularly significant for, according to our estimates, the Soviets lost 15 million men in the War; that is, three million more than were in our entire Armed Forces.

Major Soviet Demographic Trends

In discussing the projected crisis, Dr. Feshbach cited the following significant demographic trends:

- By the end of the century, we expect that the Soviet growth rate will drop from its present rate of 1% (1966 to 1970) to around 0.6%. This decrease is not due to any campaign for "zero population growth", for they just don't have such a formal drive in the Soviet Union. In Central Asia, however, the traditional value of having 5 sons is still very strong, so they generally have as many children as is necessary to acquire five sons. This may mean a family of 8 or 9. In fact, between 1959 and 1970, the average size of the family in Central Asia, including even those in the cities, has grown rather than declined, despite all efforts by the Soviets to restrain this growth through investment, urbanization, and social welfare programs. Obviously, this trend has implications with respect to a possible labor surplus on Central Asian farms. The big question is whether or not this surplus labor will migrate from Central Asia during the next decade. Even now, however, it's quite clear that these surplus farm workers in Central Asia will not move out of their home area in massive numbers. Some may move, but there will not be a mass migration which, in turn, will definitely lead to an economic slow-down and will therefore necessitate more industrial investment in this area. Of course, if, as it now appears, the labor supply just will not voluntarily move to Western Russia where the jobs are, the government could use guns to forcibly move these people -- but this introduces a whole new set of problems.
- Another important issue is the aging of the Soviet population and the demographic pattern of "over-age" people in the U.S.S.R. With respect to the Soviet Union as a whole, over-age people represented 10% of the aggregate population in 1950, but will increase to approximately 20% by the year 2000. However, in the five Soviet republics of Central Asia (i.e., the four principal Central Asian republics of Uzbekistan, Turkmenia, Kirgiziya, and Tadzhikistan, plus Kazakhstan), the situation will be very different. There, the proportion of the population in the over-age group will decline. Obviously, as previously indicated, these projections have a wide variety of implications in terms of manpower utilization, industrial location, social facilities, and many other socio-economic problems.
- Due to World War II, women have become an important segment of the working force. They constitute 30% of the construction labor force, performing both construction and clerical duties. The use of women is prevalent throughout the entire economy.

- Of particular importance with respect to Soviet demography is the fact that the country spans 11 time zones -- not merely 4, as is the case in our country. Ruling this broad expanse of territory by means of an authoritarian central government is a complex matter which involves the probability of regional problems -- specifically ethnic and nationality problems. Within the Soviet Union, there are between 100 and 140 different nationality groups and language groups -- depending on one's definition. Of these many groups, the five principal nationality groups of Central Asia are very important in the context of their growth in population. Although the growth rate for the country as a whole was 12 to 15% in the period 1959-1970, the rate in Central Asia was approximately 40%. This raises a major problem from the standpoint of the declining proportion of Great Russians in the total population of the Soviet Union to the point that they become a minority in their own country.
- During the past 2 years, we have observed something which appears to be extremely strange; that is, the aggregate death rate has increased by 0.6 per 1000 -- from 8.7 to 9.3, which is an astonishing increase in only one year. We currently have no idea what the explanation for this increase might be. This shift not only affects the older ages, but also it increases pressures with regard to the supply of defense manpower. Since 1971, we have also observed a major increase in infant mortality (i.e., from 22 per 1000 in 1971 to 28 per 1000 in 1974), for which we again do not know the explanation.

Consequences

As a consequence of the projected net decrease in the able-bodied age group in the 1980s, the Soviets will have to face and resolve the following questions:

- Where are we going to obtain the people that we need for our labor force?
- How are we going to move the people that we need in our labor force around to where they are needed? and
- What kind of administrative policies must we establish to ensure that the labor force will be where we need it?

Obviously, such a situation will intensify pressures to ensure greater labor productivity and capital productivity gains, and this is exactly what the Soviets are striving for in the current Five-Year Plan. Furthermore, they realize that, if they don't succeed now, they are going to be confronted with this precipitous decline in available manpower and with the enormous difficulties involved in bringing the Central Asians into the industrial, urban labor force. But, despite their efforts, it would appear that the Soviets are not going to be able to solve this problem anyway because:

- Their labor productivity gains over the last year are less than what the Plan called for;
- They need to allocate capital to buy agricultural goods; and
- They are trying to import technology in order to raise productivity, but they will have to raise productivity about three times the current level in order to have any chance of success.

In 1976, the Soviets made an institutional change which indicated that they are aware of this situation. This change involved the establishment of a new State Committee on Labor and Social Problems. Here, the question is one involving the definition of the word "Social". The Director of this new State Committee is the former Second Secretary of the Communist Party from Uzbekistan who is a Great Russian that has been brought back as the head of this organization. Certainly, he must be aware of the implications of the foregoing trends.

Military Implications

Turning to the military implications of the foregoing discussion, Dr. Feshbach cited the tremendous brouhaha in the Spring of 1976 concerning the size of the Soviet military forces. At that time,

- General Graham, then Director of the Defense Intelligence Agency (DIA), testified before Senator Proxmire that the Soviet Armed Forces totalled some 4.5 to 5 million men/women, but that he really believed that the figure was larger;
- Mr. William Colby, Director of the Central Intelligence Agency (CIA), also testified that the figure was about 4.5 million;
- The International Institute for Strategic Studies (IISS) in London published a figure of only 4.005 million; and
- A study by the Library of Congress reflected a figure of 4.8 million, which was generally accepted communitywide.

The problem was how to balance these figures. If there really were 800,000 more men in uniform than open sources indicated, where should this 800,000 be added -- not only in terms of the 1975 figures, but also for all the years before that? In attempting to find a way out of this quandary, Dr. Feshbach formulated the hypothesis that uniformed civilians constituted the basic cause of the problem and, in order to resolve the issue, he had to produce evidence that these uniformed civilians were being counted in the civilian labor force. This he did as follows for at least three out of five categories:

- First, with respect to the construction troops, Soviet and emigré sources can be cited which indicate that these personnel are:
 - Treated differently; and

- Paid wages comparable to civilian construction personnel (not 3 to 5 rubles a month like an ordinary draftee, but 50 to 60 rubles a month and higher).
- Second, with respect to medical personnel, it is clear that the Soviets didn't include this manpower in the Armed Forces data which they published in January 1959. In 1959, the Soviets announced that their Armed Forces numbered 3,623,000 personnel, of which 632 were women -- not 632,000, but 632! That's utterly impossible, unless military medical services are not included. As James Reitz pointed out, two-thirds of the combat doctors in the Second World War were female, and eighty-five percent of the Soviet medical service personnel is now female. Furthermore, in reviewing Soviet budget data, there is a citation by Abraham Becker concerning a transfer from the Ministry of Defense (MoD) budget to the Ministry of Public Health budget in 1961-62, which would indicate that funds for military medical services were incorporated in the Ministry of Public Health budget.
- Finally, with respect to the dining hall, post exchanges, and like activities, the balance sheet for the military trade system is known to be included in the total, published retail trade figure for trade turn-over.

On the basis of the foregoing evidence, Dr. Feshbach adopted the four million figure published by the IISS -- confident that the other 800,000 personnel should be included in the figures for construction, medical, and other service personnel. However, he actually selected a figure of 4.5 million in order to give the Soviets "the benefit of the doubt". If the figure is actually 4.8 or 5.2 million, then the Soviet military manpower situation will be much worse in the critical period of the 1980s.

In 1959, the able-bodied age group numbered approximately 120 million; this figure is important as a base. The Soviets were extremely worried about the size of their labor force in 1961 so, in that year, they drafted two cohorts to compensate for the shortage of nineteen-year-old draftees entering the military service. The average annual increment during the period 1959-65 was approximately 740,000. This increment doubled in the late 1960s and expanded to 2,500,000 in 1971-75, but declined a bit in the late 1970s. In the 1980s, however, this increment will decline sharply to approximately 540,000 (in the period 1981-85) and 570,000 (in the period 1986-90). However, the first thing that must be done with respect to these figures is to eliminate the individuals pursuing a full-time education -- which amounts to about 400,000 to 450,000 for this period of time. Life expectancy tables indicate that 4,000 per year will die from various causes, and another 10% will be lost due to deferments, exemptions, and similar circumstances -- some of whom will presumably return two years later for conscription. The Soviet manpower situation is further exacerbated by regional problems. For example, by the end of this century, estimates indicate that fully one-third of the 18-year-old cohort will come from the southern, less Russian-speaking and less mobile sectors.

These are the less industrialized, less urbanized, and less technologically oriented areas. Looking at the Soviet manpower situation from this viewpoint and excluding any questions of military force structure, it would appear that the Soviets have some real problems, which is the basic thrust of this discussion -- that is, address the Soviet manpower issue from a demographic-economic standpoint, as opposed to simply examining the issue from a military point of view.

Finally, it would appear that we do not know enough about Russian language training in the Soviet military establishment. There are cases cited of sergeants who are the intermediaries between the Russian-speaking officers, who give the commands, and the non-Russian speaking soldiers. In this context, there is a big drive to create a sense of Soviet inter-nationalism -- making everybody Soviet and making everybody learn Russian -- but it has been very unsuccessful thus far, and the 1980s are not that far away.

"A Technique for Assessing Selected Elements of Soviet Military Manpower"
by Ms. Harriet Fast Scott

Ms. Scott described the "iceberg" technique that is being utilized in ongoing assessments of Soviet military manpower in such defense-related sectors as:

- Civil defense;
- The Soviet All-Union Voluntary Society for Cooperation with the Army, Air Forces, and Navy (DOSAAF);
- The military commissariat system; and
- Initial military training.

This technique is so identified because it is based upon the assumption that, by identifying the general officers and other senior officers at the top of a military organization (i.e., "tip of the iceberg"), one can project the organization beneath them and estimate its size.

Utilizing this technique, Ms. Scott has thus far identified 47 general officers working fulltime in civil defense. Of these, more than 40 currently appear to be on active duty. However, in estimating the total number of Soviet general officer positions in the civil defense "iceberg", it would appear that:

- At the Ministry of Defense level (in the office and on the staff of the Chief of Civil Defense) there are . . . 12
- At the level of military staffs for civil defense:
 - The number of Chiefs of Staff for Civil Defense within the 15 republics of the Soviet Union is 15
 - The Deputy Chiefs of Staff for political matters in the offices of the Chiefs of Staff in the 15 republics also number 15

- The Officer-in-Charge of Civil Defense in the Moscow Oblast and the Senior Civil Defense Officer for the city of Moscow account for 2
- At the level of Troops of Civil Defense:
 - The number of Deputy Commanders for Civil Defense within the headquarters of the 16 military districts of the Soviet Union is 16
 - There is also the Commandant of the Civil Defense School 1

Therefore, although the absolute minimum of Soviet general officers assigned to civil defense is estimated to be 61, a more realistic estimate of the number of Soviet general officers assigned to civil defense duties may well be in the order of 80-120.

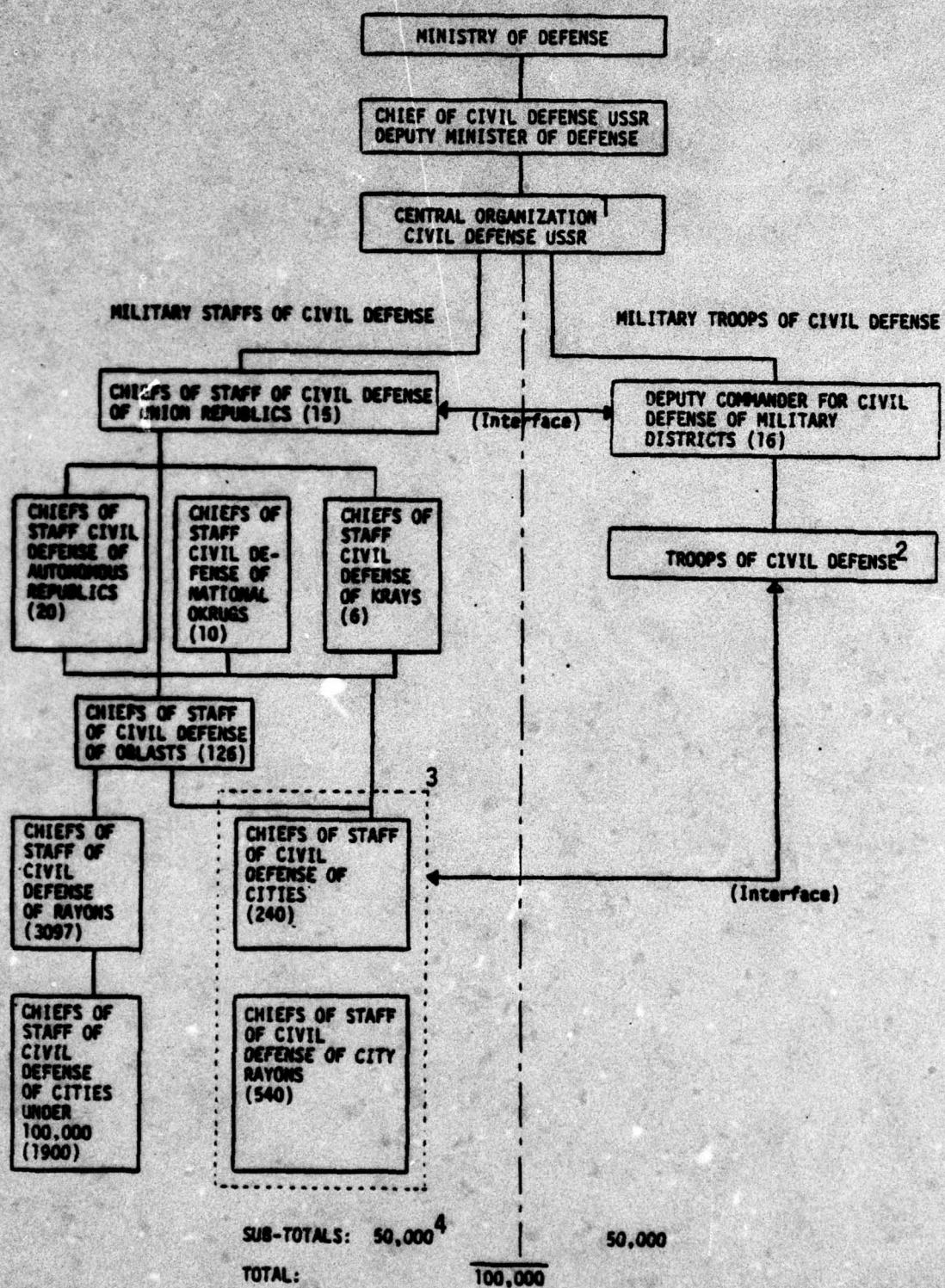
With regard to other Soviet officers in civil defense and referring to the overall structure of Soviet civil defense in Figure 1, a sufficiently large number of colonels at the oblast level (i.e., generally equivalent to a U.S. state) have been identified to assume, with some degree of confidence, that at least one colonel is assigned to each of the 162 Soviet oblasts -- to include autonomous republics, national okrugs and krays. Furthermore, officers are to be found in civil defense activities in each of the 240 Soviet cities with populations exceeding 100,000 persons (many of which are further divided into regions) and in some smaller cities which appear to warrant a civil defense staff. In all, then, the total number of Soviet officers, other than general officers, involved in civil defense may be estimated as follows:

- Administrative units within the Soviet Union which appear to have Chiefs of Staff for Civil Defense in the grade of colonel are:

-- Autonomous republics	20
-- National okrugs	10
-- Krays	6
-- Oblasts	126

¹ These positions were apparently established in 1972 when General Altunin became the new Chief of Soviet Civil Defense. To date, six general officers have been identified by name in these positions. It simply takes time to identify all of the Soviet general officers who occupy these and other civil defense positions in Soviet periodicals.

Figure 1
THE OVERALL STRUCTURE OF SOVIET CIVIL DEFENSE



- 1) Figures in parenthesis reflect the numbers of union republics, military districts, republics, and other organizational entities.
- 2) A detachment or larger unit in every major Soviet city
- 3) Cities larger than 100,000
- 4) Military personnel on civil defense staffs

-- Cities over 100,000 240

Total Number of Colonels . . . 402

- Administrative units within the Soviet Union which appear to have Chiefs of Staff for Civil Defense in the grade of lieutenant colonel, although some positions might be filled by majors, are:

-- Regions of cities, where large cities are subdivided into regions of 100,000 540

-- Rayons or regions which are not parts of cities 3097

-- Cities of less than 100,000, but which appear to warrant a civil defense staff . . . 1900

Total number of lieutenant colonels (and some majors) in civil defense assignments as Chiefs of Staff 5537

- Each Chief of Staff for Civil Defense has a staff which may well include an officer for each of 13 civil defense services. Of course, in some areas, several of these services might be performed by one officer. However, it would be reasonable to estimate 8-10 military officers assigned to the civil defense staffs of each of some 5,000 krays, oblasts, cities and rayons which would indicate a total of approximately 45,000

In summary, then, utilizing the "iceberg" technique and rounding the sum of the foregoing figures, the total number of Soviet officers involved in Soviet civil defense activities is estimated to be in the order of 50,000. As for the Troops of Civil Defense, there is probably a detachment or larger unit in each major city (over 100,000) -- of which there are 240. A detachment or larger unit of an average size of 200 men for each city would therefore equal nearly 50,000 Troops of Civil Defense. Overall, it would therefore appear that there are some 100,000 military personnel involved in the Soviet civil defense system -- 50,000 of which are Troops of Civil Defense and the other 50,000 of which are military personnel on the staffs of the hierarchical structure shown in Figure 1.

GENERAL DISCUSSION

Following the presentations, a general discussion ensued which reflected not only an expansion upon the subject matter presented by each of the panelists, but also items of particular interest to the participants in the seminar. The highlights of this general discussion, which contained a number of suggestions for new or expanded research, may be generally summarized in terms of major topics as follows:

The Length of Military Service and the Reserves

- Any change in the length of Soviet military service will probably be due to operational requirements -- which vary considerably from area to area. The Soviets appear to be making some rather careful adjustments before they release personnel from military service, but it does not seem to be working in a very uniform fashion. It is anticipated that the Soviets will be constantly shifting the nature of their military deferment pattern as well as their reserve officer pattern. It's not a matter of keeping all personnel; it's just that they are trying to retain some personnel longer.
- The Soviet program for reserve forces is colossally incompetent and gigantically expensive, but the Soviets do prefer reservists, and they do pay the price for them.
- If the Soviets extend the length of military service, they will further decrease the availability of manpower for the civilian economy where manpower shortages are already becoming quite desperate.
- It would appear that the Soviets put young men through the military system for reasons other than solely military requirements. Military service is a good way to give Soviet youth some political indoctrination, and having a half million men less in uniform during the 1980s would not terribly alarm the Soviets.

Military Training

- The Soviets apparently regard the individuals who are trained to fill long lead-time, high security-sensitive positions (such as in the Soviet missile forces and air forces) as long-tenure personnel and offer them rapid advancement and other inducements. However, these inducements have created other problems involving the development of warrant officers, a lack of respect for young sergeants, and excessive expectations on the part of these young, technically skilled individuals.
- The Soviets have discovered that premilitary training doesn't really provide any training at all. So, they now give each conscript six months of training before assigning him to an operational unit where he can fill a job slot, such as that of a driver of an armored personnel carrier (BMP). This will do very well for some 14 or 15 months, but the system totally precludes cross-training. Therefore, some of the elements of low-level, but important, tactical effectiveness which they wish to achieve are precluded by the very system that they are operating.

- The best and most perceptive questions with regard to the effectiveness of Soviet military training have not come from the military, but from the main political administration.
- The Soviets have apparently concluded that they need a super-service element to determine which billets should be occupied by conscripts and which should be occupied by extended-service personnel. In this context, we should initiate a thorough study of the Soviet enlisted personnel management system.
- The increased length of technical training in the Soviet Armed Forces appears to have been offset to some extent by the procurement of individuals with good technical backgrounds, the efficiency of training, and on-the-job training.

Groups of Soviet Forces/Germany (GSFG)

In discussing the GSFG, Professor Erickson made the following observations:

- The GSFG is an extremely lean, tough, and quite efficient military organization. It's a hard-working, hard-training army with an extremely efficient staff and an air force that's become an all-weather force.
- The officer corps has a very good background, has been given excellent training, and has quite a reasonable level of professionalism, but there has been no test of how it would perform under wartime conditions.
- The equipment of the GSFG is simple, robust and "soldier proof".
- Chemical warfare training is realistic and is taken seriously -- which must presage battlefield use.

Motivation and Living Conditions Within the Soviet Armed Forces

- The Soviet officer corps is not properly motivating the troops, for whenever a problem arises, the solution seems to be to preach to the junior officers about motivation. Senior Soviet officers can be extremely arrogant; and the junior officers just get "kicked around".
- No man who enters the Soviet Armed Forces should expect an easy life. Many of the hardships are simply the result of indifference.
- There has been a general tightening of discipline within the Soviet Armed Services and, though the Soviet soldier is certainly

better off than he was 20 years ago, the improvement in his conditions is not as much as is sometimes alleged.

- There has been a decline in the desirability and prestige of a military career in the Soviet Union because professional and material advantages which were formerly available primarily in the privileged environment of the military are now available at least as readily in the civilian sector.

Soviet Perceptions of Their Manpower Problems

- The Soviets are well aware of their massive manpower problems, but they are trying stopgap measures -- rather than really coming to grips with the problems. They face the issue of whether to try and patch their system together here and there or whether a quantum leap is necessary.
- Soviet definitions of what constitutes efficiency and effectiveness may be fundamentally different from ours. In this context, efforts should be made to define Soviet perceptions of their own efficiency and the measurements which they use to evaluate efficiency.
- An historical approach to the assessment of Soviet military manpower and how it would perform in time of war would be very worthwhile. In this context, the Soviets have historically displayed an institutional rigidity and a fundamental reluctance to innovate institutions.
- According to Professor Erickson, Soviet perceptions of their own military shortcomings include:
 - The skill, education and performance of their officer corps, especially at the lower levels;
 - Morale and motivation;
 - The physical capabilities of the modern Soviet soldier as compared with those of his father;
 - Slowness and incompetence in the introduction of advanced equipment into their units, coupled with the lack of success in attaining rapid innovation; and
 - A certain tremulousness, or nervousness, as well as a sense of misgiving, which cannot be completely denied or hidden, with regard to the ultimate performance of their own troops.

The Civilian Labor Force

- Although the Soviet labor force does include a significant number of "hidden reserves" (i.e., a full 50% of their production workers

are what we call auxiliary workers), Soviet efforts to tap these reserves for other employment face severe obstacles, such as the modernization of their industrial plant processes and procedures -- which would require large and expensive purchases of mechanization technology and facilities from the West and are beyond the capital means of the Soviets to afford.

- The Soviet civilian manpower situation is further aggravated by internal labor migration patterns, which are not highly favorable for the economic development of the country. People are leaving the areas which the Soviet Government has been attempting, at great expense, to populate and develop (e.g., Siberia and the Far East), but they are not migrating towards industry, for there is little industry in the South. This development has economic significance and strategic implications as well.
- The Soviet manager has a continuing problem in terms of labor rationalization which involves such factors as output maximization, minimum costs, and more bonuses for workers who produce -- all of which encourage "featherbedding" or maintaining surplus labor on hand in order to accommodate unanticipated changes in production demands and political or seasonal vicissitudes. The Soviets could change the rules that relate to "featherbedding", but that would involve political costs to the Party which it does not wish to incur. However, by the 1980s, the underlying economic costs due to these pressures may be substantial enough to force the Soviets to change their rules. This is an area that we should study.

The General Quality and Implications of Soviet Education

- The rapid expansion of the Soviet general educational system poses the serious danger of a glut of people who expect to hold jobs appropriate for a B.A. or M.A.
- Perhaps half of the Soviet engineers are trained in correspondence and evening schools -- which certainly says something about the quality of Soviet engineers.
- Specialties in terms of the Soviet educational system are much narrower than those in the U.S., especially in engineering.
- At the present time, two-thirds of the male college-educated cohort are Party members -- the same situation is true in the Soviet Armed forces, which raises such difficult questions as:
 - Will the Soviets enlarge the Party, but maintain the same proportion of male, college-educated members, or will they intentionally thin it out?
 - Will they keep the Party small and permit it to become relatively more isolated with respect to this vital element of Soviet society?

- Which way will the military go as this situation develops, particularly the officer corps?
- Will the Soviets try to maintain or increase the number of Party members in the military?
- If so, would not the military become relatively the most Party-based element of the Soviet elite?
- In response to such questions, Ms. Scott stated that in view of recent trends, it would appear that the Soviet military will have a smaller voice in the Party. Professor Erickson, on the other hand, felt that the real battle will involve the degree to which the military's managerial ambitions are satisfied in the coming regime. In other words, will the military be advanced as a professional body for certain institutional reasons and, obviously, for political reasons? A lot will depend upon the manner in which Soviet leadership either accommodates or turns aside the military. In Professor Erickson's opinion, the battle to which he alluded will transcend the classic Soviet Army vs Party lines.

The "Iceberg" Technique

- In discussing the "iceberg" technique for estimating Soviet defense manpower, it was observed that the mere fact that an organizational structure exists on paper and that the top command positions are filled is no guarantee that positions below the "tip of the iceberg" are indeed occupied. As a matter of fact, in a situation involving manpower shortages, the Soviets will be tempted to partially staff military organizations, rather than to dismantle them -- thereby creating an organizational shell which is difficult to assess in terms of manpower.
- On the other hand, it was argued that a vast number of people are processed annually by the Soviet commissariats and that the variety of functions involved certainly requires a significant amount of manpower -- even though it may not be possible to identify all of those individuals who are performing these functions.
- Filling an organizational position with "a body" does not mean that "the body" is necessarily qualified to fill the position -- and there are indications that this may occur in Soviet para-military organizations, such as DOSAAF. So, large Soviet bureaucracies must be studied very carefully in order to determine whether they actually do anything and how effectively they function -- particularly in view of the possibility that some of the top levels may afford comfortable positions for military pensioners.

- If the Groups of Soviet Forces/Germany (GSFG) is a very good army, then the armored tactics which are being adopted by both the U.S. and West German Armies might be invalid. If the GSFG does have organizational and control problems, then these tactics appear to be valid.
- If the Soviet Union and the Soviet military are faced with a crisis which their present system will find to be insoluble and if they wish to keep their basic system, what can they do to resolve this predicament and, if they decide to go something drastic to solve their problems, would their course of action be likely to affect the United States?
- If the U.S. Navy wishes to assess the operational readiness and effectiveness of the Soviet Navy (as opposed to the weapons characteristics and order of battle of the Soviet Navy), it will be necessary to learn more about the people who man the ships, who shoot the weapons, and who make the plans for their naval operations. In this context, we are just now beginning to turn our attention to the fact that there are people in the Soviet Navy, that these people have a national character, that they receive certain types of training, and that this national character and training bear implications for the readiness and the effectiveness of the Soviet Navy. Obviously, this observation applies to the other Services as well.
- If a major Soviet shortcoming is a fundamental, historical reluctance to innovate institutions, then this characteristic may provide a key to the better understanding of both the military and civilian manpower sectors. In this context, we must invest as much time, effort, and perceptiveness to the study of the characteristics of Soviet military manpower as we have devoted to analyzing the numbers of this manpower to date.

CONCLUSIONS AND RECOMMENDATIONS

Bearing in mind the exploratory nature of this brief seminar, it was nonetheless apparent that the seminar was generally successful in achieving its overall objectives of highlighting some of the major problems involved in assessing Soviet defense manpower and discussing a number of the issues and possible research topics associated with these problems. Although there was no attempt to attain a consensus with regard to any of the problems and issues discussed, it did appear that there was a general consensus that, although the Soviet Armed Forces do constitute a formidable threat, the Soviets are not without some serious manpower problems which warrant continuing study in order to better assess the implications for the United States. Some of these major problems were identified as follows:

- The decrease in the pool of available manpower during the 1980s;

- The increase in ethnic minorities -- the Central Asians, in particular;
- The pervasiveness of "featherbedding";
- The implications of the rapid expansion of the educational system;
- The overall quality (skill, education, and performance) of the Soviet officer corps -- the lower ranks, in particular;
- The underlying morale, motivation, and ultimate performance of the Soviet troops themselves; and
- The fundamental reluctance of the Soviets to innovate institutions.

The panel presentations and general discussion also raised a number of questions which appear to warrant further investigation and discussion; for example:

- Have the Soviets determined that their premilitary training program "doesn't really provide any training at all", so that each conscript now receives six months of training before assignment to an operational unit?
- Is the Soviet program for reserve forces really so "colossally incompetent and gigantically expensive" in terms of the Soviets' ultimate readiness for war?
- Is it possible that "having a half million men less in uniform during the 1980s would not terribly alarm the Soviets"?
- Do "the best and most perceptive questions with regard to the effectiveness of Soviet military training" really come from the main political administration?

Furthermore, in the case of some of the issues discussed, there was a divergence of opinion; for example, the ultimate validity of the "iceberg" technique in assessing the numbers and structure of manpower in the Soviet Armed Forces and the future role of the Soviet military in the Party.

Finally, there were a number of areas suggested in terms of new or expanded research on the subject of Soviet defense manpower. Some of these may be briefly identified as follows:

- The development of a compendium of Soviet defense manpower and manpower-related terms, to include their meanings and usage, with particular reference to technical training terminology;

- An expansion of the studies of the Soviet institutional framework in order to permit the proper ordering of micro studies of Soviet military manpower;
- An increase in the utilization of Russian open source materials for manpower research purposes;
- An assessment of the implications of "featherbedding", particularly with respect to the utilization of Soviet military manpower in non-military or paramilitary activities;
- Additional research on the following aspects of Soviet officer and enlisted manpower and the implications with respect to operational readiness and effectiveness:
 - National and geographic characteristics,
 - Demographic trends,
 - Quality (skill, education, training, and performance),
 - Morale and motivation,
 - Innovative capabilities, and
 - Language/ethnic barriers;
- An expansion of the research on the costs and effectiveness of Soviet reserve manpower; and
- An analysis of the implications of the increased utilization of women in the Soviet Armed Forces.

In conclusion, it is strongly recommended that the foregoing problems, questions, and suggested areas of research be given due consideration in the definition and conduct of ongoing and future assessments of U.S. vs U.S.S.R. defense manpower.

APPENDIX A

AGENDA FOR THE SEMINAR

AGENDA FOR THE
SEMINAR ON SOVIET DEFENSE MANPOWER

January 28, 1977

Introductory Remarks

- Mr. Rex D. Minckler, Manager, Net Assessment Programs Office, General Electric Center for Advanced Studies (GE-TEMPO)
- Dr. Robert N. Ginsburgh, Moderator, GE-TEMPO

Panel Presentations

- Some Observations on the Quality of Soviet Military Manpower
Professor John Erickson, Director of Defence Studies, University of Edinburgh
- An Overview of Manpower in the Soviet Military-Industrial Complex
Mr. James T. Reitz, Senior Soviet Analyst, GE-TEMPO
- Soviet Demographic Trends and Possible Implications for Soviet Defense Manpower Planning
Dr. Murray Feshbach, Chief, USSR/East Europe Branch, Foreign Demographic Analysis Division, Department of Commerce, and Special Consultant to GE-TEMPO
- A Technique for Assessing Selected Elements of Soviet Military Manpower
Ms. Harriet Fast Scott, Senior Soviet Analyst, GE-TEMPO

General Discussion and Closing Observations

- Dr. Robert N. Ginsburgh, Moderator, GE-TEMPO

APPENDIX. B

PARTICIPANTS IN THE SEMINAR

THE PARTICIPANTS IN THE SEMINAR ON
SOVIET DEFENSE MANPOWER

January 28, 1977

Individuals

• Mr. John F. Ahearn

• Mr. Robert E. Berry

• Mr. Martin Binkin

• Mr. Donald Burton

• Dr. Steven Canby

• Mr. Steven Chase

• Mr. Edward M. Collins

• Mr. Anthony H. Cordesman

• Mr. Gary B. Crocker

• Mr. John Donaldson

• Dr. Warren W. Eason

Position and/or Agency

Principal Deputy Assistant Secretary,
Office of the Assistant Secretary of
Defense (Manpower and Reserve Affairs)

Deputy Director (Policy and Planning),
Office of the Director of Defense
Research and Engineering

Senior Fellow, Foreign Policy Studies
and Defense Staff, Brookings Insti-
tution

Chief, Program Analysis Division,
Office of Strategic Research, Central
Intelligence Agency

Consultant

Director, Manpower Research and
Analysis Group, Central Intelligence
Agency

Deputy Director for Intelligence
Research, Defense Intelligence Agency

Special Assistant to the Director of
Defense Intelligence for Performance
Evaluation, Office of the Assistant
Secretary of Defense (Intelligence)

Office of Political, Military and
Theater Forces, Bureau of Intelligence
and Research, State Department

Tactics and Organization Section,
Defense Intelligence Agency

Executive Secretary, American Associa-
tion for the Advancement of Slavic
Studies

IndividualsPosition and/or Agency

• Professor John Erickson

Director of Defence Studies,
University of Edinburgh

• Dr. Murray Feshbach

Chief, U.S.S.R./East Europe Branch,
Foreign Demographic Analysis Division,
Department of Commerce

• Mr. Robert Gallagher

Senior Advisor to the Special
Assistant to the Secretary of the
Treasury

• Lt. Col. Frederick Giessler

Military Assistant to the Director
of Net Assessment, Office of the
Secretary of Defense

• Col. Herman Gilster

Director of International Economic
Affairs, Office of the Assistant
Secretary of Defense (International
Security Affairs)

• Dr. Robert N. Ginsburgh

Senior Analyst and Moderator, Net
Assessment Programs Office, General
Electric Center for Advanced Studies

• Mr. Robert L. Goldfich

Specialist in National Defense, Con-
gressional Research Service, Library
of Congress

• Mr. Sidney Graybeal

Director, Office of Strategic Research,
Central Intelligence Agency

• Dr. John P. Hardt

Senior Specialist in Soviet Economics,
Congressional Research Service,
Library of Congress

• Mr. Bruce Hoffer

Ground Order of Battle Section,
Defense Intelligence Agency

• Professor Edward Keenan

Director, Russian Research Center,
Harvard University

• Mr. Robert Leavitt

Chief, Military Expenditures Section,
Defense Intelligence Agency

• Capt. William H.J. Manthorpe

Head, Naval Warfare Capabilities
Department, Naval Intelligence Sup-
port Center

• Lt. Col. Fred V. Manzo

Chief, Soviet/East European Branch,
Office of the Assistant Chief of
Staff for Intelligence, Department
of the Army

IndividualsPosition and/or Agency

- Mr. Andrew W. Marshall
Director of Net Assessment, Office of the Secretary of Defense
- Dr. Gordon C. McMeekin
Senior Comparative Analyst and Rapporteur, Net Assessment Programs Office, General Electric Center for Advanced Studies
- Mr. Rex D. Minckler
Manager, Net Assessment Programs Office, General Electric Center for Advanced Studies
- Mr. J. Dale Pafenberg
Special Advisor to the Assistant Chief of Staff for Intelligence, Department of the Air Force
- Mr. John W. Parker
Office of Research and Analysis for the Soviet Union and Eastern Europe, Bureau of Intelligence and Research, State Department
- Mr. Richard G. Rebh
Comparative Analyst and Rapporteur, Net Assessment Programs Office, General Electric Center for Advanced Studies
- Mr. James T. Reitz
Senior Soviet Analyst, Net Assessment Programs Office, General Electric Center for Advanced Studies
- Major William Rennage
Military Assistant to the Director of Net Assessment, Office of the Secretary of Defense
- Ms. Harriet Fast Scott
Senior Soviet Analyst, Net Assessment Programs Office, General Electric Center for Advanced Studies
- Dr. William F. Scott
Consultant
- Mr. Peter Sharfman
Civilian Assistant to the Director of Net Assessment, Office of the Secretary of Defense
- Mr. David A. Smith
Special Assistant to the Deputy Assistant Secretary of Defense (Planning and Requirements), Office of the Assistant Secretary of Defense (Manpower and Reserve Affairs)

10/10/84 10:00 AM

Individuals

• Mr. Robert Smith
Manager, Washington Technical Programs, General Electric Center for Advanced Studies

• Mr. Donald W. Sruill
Manager, Washington Technical Programs, General Electric Center for Advanced Studies

• Dr. S. Frederick Starr
Executive Secretary, Kennan Institute for Advanced Russian Studies

• Lt. Col. John Todd
Manpower and Forces Program Analysis Team, Office of the Army Chief of Staff

• Mr. Theodore Tyskowski
Human Resources Division, Defense Intelligence Agency

10/10/84 10:00 AM

Position and/or Agency

Performance Evaluation Staff, Office of the Assistant Secretary of Defense (Intelligence)

Manager, Washington Technical Programs, General Electric Center for Advanced Studies

Executive Secretary, Kennan Institute for Advanced Russian Studies

Manpower and Forces Program Analysis Team, Office of the Army Chief of Staff

Human Resources Division, Defense Intelligence Agency

APPENDIX C

**SOME OBSERVATIONS ON THE
QUALITY OF SOVIET MILITARY MANPOWER**

SOME OBSERVATIONS ON THE

QUALITY OF SOVIET MILITARY MANPOWER

Professor John Erickson

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At the University of Edinburgh, I operate a non-existent institute

with a non-existent staff -- it's really a phantom organization. I work

on my own, and I have no connections with anyone. I do not work with

any military personnel of NATO or, of course, the Eastern European

countries. My correspondence just "sort of comes" to me. The relevance

of what I am saying here is that the research which I do in Edinburgh

does not involve the preparation of a series of social science papers

on military manpower. I don't understand strategy and I never will.

As a consequence, I find deterrence to be a somewhat baffling concept.

However, the much more mundane problem of military manpower is a subject

to my liking. The irony of it is that, in discussing this particular

subject, you may engender bigger arguments over manpower than over missiles.

In the rubric which I have formulated for myself in terms of Soviet

studies, the following general principles do hold true:

- Never ask a question of a Soviet organization that you cannot ask of your own. To do so is to make comparisons which are not valid. It is very important to not expect to obtain answers from their organizations which you can't get from your own; and
- Always do what the Russians are doing. Don't invent the circumstances or redraw the forces.

In my opinion, these principles give my work a certain integrity.

Now, I will address myself to three types of problems which relate to Soviet military manpower. The first problem is one of language and

terminology and the broad issue of concepts. In my discussions with Soviet commanders and my counterparts in the Soviet Union and Eastern Europe, I have found that we have great difficulty in talking about the subject, not because of secrecy, but for simple conceptual reasons. For example, take the question: "What is a better trained man?" That in itself begs almost every other question.

The second problem involves the particular techniques that are utilized. As social scientists and economists, you are all aware of this problem for it poses great difficulties in talking even to specialists about specific research, such as that pertaining to simulators and the efficacy of simulator training.

The third problem includes some of the real problems which face both the Soviets and ourselves. For example, the problem of getting the right officer candidate in the right officer school is very prominent in the Soviet military education and recruitment procedures. On a number of occasions, the suggestion has been made to some Soviet officers that the job of selecting candidates for branch schools could be facilitated if, in addition to educational qualifications and so on, certain psychological profiles were added to the candidate's dossier. Psychological profiling, however, is an extremely crude, messy, and difficult job. Therefore, one must determine whether what the Soviets mean by psychological profiling is what we mean by psychological profiling and, indeed, how well the process works -- given the difficulties involved. As a consequence, I question the degree to which their technical research, as I understand it in academic terms, is keeping pace with the demands of their growing economy.

THE PROBLEMS OF TERMINOLOGY

The language of social science is, indeed, difficult. Only slowly have we observed the growing awareness and the development, both within the Soviet military and the associated Soviet research, of a more sophisticated language and easier terminology in discussing existing

manpower problems. Ten years ago, it was practically impossible to discuss manpower problems with the Soviets because they didn't know anything about it and the terminology was lacking. There was just nobody with whom one could talk technically about the subject, and it was extremely difficult. More recently, there have emerged groups of people within their organizations who are more skilled in handling some of their particular manpower problems.

Recognizing the importance of language or terminology, I believe that it would be very useful just to develop a glossary of Soviet manpower and training terms.

Let me give you a more practical example. I once did a study on certain qualitative aspects of the Soviet Armed Forces, and some Soviet officers asked to see and discuss this study with me, and we did have a very lively discussion. At the beginning of the discussion, however, they said: "We find it difficult to talk about this because you don't understand the social problems of the Soviet Armed Forces." But, I actually do, so I stated that this was not the case. I gave some examples, and then we got into the real mechanics of the problem -- talking about what was involved in the Yugoslavian reforms. Our discussion involved a mixture of military arrogance, a genuine sense of achievement with regard to what I thought was a very interesting innovation, and lots of really rather "awful mugging" about the implications of this subject. Again, the social language was difficult. Additional illustrations of the great sophistication which is developing can be found in the Polish work and in some of the Hungarian work which has been done on this subject. In these works, one acquires a slightly different insight into the social research techniques which are being applied and, indeed, solicited by the military itself. However, let me add very quickly that some of the Polish studies of the Polish Officer Corps are classics in their own right, but this is only because the Polish are very good sociologists and good people. Therefore, when one talks about training, the better trained man, recruitment, enlistment, and all of the related

manpower subjects, this language must be translated into Russian or Polish. We must be quite sure that the contexts are correct and that we really know what we are talking about. Otherwise, even the most rudimentary comparisons are very difficult.

Hence, I would plead, first of all, for a proper glossary. I don't mean lists of concepts; rather, a simple glossary of terms. For example, when the word "simulation" is used with reference to training, let us make sure that we really understand that this is genuine simulation, for there are many varieties of simulators used by the Soviet Armed Forces that are simply not simulators at all; they are just substitutes for equipment. They have a grand name, but they are not grand, and they are not simulators in any sense. Indeed, in the way they are constructed, they can be counter-productive and can lower the quality of training. So, this is my first point.

THREE TYPES OF MILITARY MANPOWER PROBLEMS

The second problem which I will address really consists of three different groups of issues. It is possible to generally classify the military manpower problems which confront the Soviets into the following categories:

Military Manpower in General

First of all, the Soviets are not generally preoccupied with the social aspects of military manpower as a whole. However, a considerable body of general military manpower problems have been developing and are easy to grasp; for example, the nature of the manpower entering the Armed Forces, the problems pertaining to costs and efficiency, the nature of military stamina, and so forth. These problems include a broad spectrum of subjects which are very easy to discuss with them and which do not involve any great difficulties. These problems can be expressed in a number of ways ranging from their investigations and discussions of the way in which the military profession, for example, is projected as a career in the Soviet Union. This simply involves the rather more detailed question of handling all of the military manpower which

the Soviets command, its utility, and so on. It is the one comparison which is the most readily made and in which the Soviets are compelled to be quite frank.

The Soviet Officer Corps

The foregoing group of general problems is clearly linked with the second group of problems which are much narrower, much more difficult to assess, and which, to my mind (and this is common in both Eastern Europe and the Soviet Union), belong in the category of tactical, technical, and professional problems. The common link among these problems (and this is extremely difficult to understand, but is clearly one of their prime concerns) is to improve the quality of the Soviet officer or, as they put it, to turn out a cultured officer -- an officer with culture. The word culture causes a great deal of trouble, for culture clearly does not mean being cultured in the sense of simply manicuring one's nails. It is the concept of the officer himself -- of his performance, potential, and capability; of his utility within the system; and of his social utility as well, which is really very complex indeed. Again, to return to my recommendation with regard to a glossary, we need to define precisely what they mean by a cultured officer. For example, the cultured officer:

- Reflects the strange combination of an individual with a good, broad social background and considerable level of sophistication which, by the way, is a contradiction in Soviet society in view of the Soviets' highly specialized education and lack of broad sophistication;
- Is an individual with particular professional and technical skills; and
- Has a sense of style and instinct which they feel is very important, for the style of a commander, the flair, and the kind of instinct for this sort of thing is something which they really want. This sense of style is something which their educational clinics cannot provide and which is best expressed, not by the Soviet officer of the 1970s, but by the Imperial Russian officer of the 1850s or the 1890s. It's an instinctive quality which is very much at odds with the norms and regulations of modern day Soviet society and thus presents an acute, long-term, practically ineradicable dilemma.

Then, we have the problem of the professional training and actual performance of the Soviet officer. Here, obvious changes have been made, and it is interesting to note that a certain amount of progress has been made in terms of Soviet social investigation of the composition of their officer corps; for example, the Soviet interest in the role of the officers' wives, in the officers' performance, and in the officers' work load. But, while they are aware of these major problems, I don't see very many signs of much external, objective research on them from their point of view at least. They are well aware of the stress under which a Soviet junior officer labors, the numerous problems in his career, and the threat to his family structure. Yet, there seems to be a marked reluctance to deal with these problems in other than the most general terms.

The education pattern of Soviet officers is very well established and now is simply more of the same -- more education. They are going to educate their young officers until it "comes out of their ears" in the general hope that this is the best course of action. However, let me give you an example of this concept of education in terms of the new Soviet program for inculcating a knowledge of alternate command and control systems in new officers. This is a purely subjective remark, but I really don't believe that they expect every officer to know the intricacies of every alternate control system. However, what they want the officer to do is to understand the basic terminology of control systems in general terms so that he can utilize this technology, when required, to increase his tactical dexterity. In other words, the young Soviet officer should not think that his options are limited, but that his tactical horizon has been widened and that, in fact, there are certain tactical situations wherein his tactical effectiveness can be improved by applying these particular techniques. This, I think, is being made very clear as an established objective in those interminable and murky discussions of what they describe as "scientific foresight" or "scientific forecasting" -- which is neither foresight nor forecasting, but is mostly hindsight.

The officer corps is a problem for the Soviets at many levels, and the problems tend to increase due to social and educational complications. In all of this, however, I am quite certain that by using some Soviet standards and some common sense, one can track levels of effectiveness, performance, and input, and I think that much more Soviet literature will be available on these subjects.

Military Performance and Utilization

The third group of problems is the most difficult one of all and is especially difficult in terms of trying to understand the meaning of the standard Russian term, objectiveness. Whether objectiveness means efficiency, effectiveness, or efficacy, I do not know. I have never found a Soviet officer who could tell me just what it does mean. But, it is applied to practically everything, and I return once again to my point with regard to the murkiness and lack of precision in this kind of language. It is certainly true that Soviet development of their training technology has been considerable. Some of the work is quite advanced, but much of it is really rather primitive. Moreover, much of their investigative work on the efficiency of their own units is really very much open to question which creates a most difficult problem in using Soviet materials for the purpose of estimating how effective they think their system is. It is just very difficult when one keeps telling them that you cannot ask a battalion commander to be a trained social psychologist. The Soviet military/political administration and the officer corps have educated or developed a number of their own military investigators who are not too bad, but they fall far short in terms of the kind of qualifications that they are going to need within their own system. Of course, this is where the argument spills over not just into training, but also into that other awkward dimension known as the military/political administration.

The technologies and techniques of training are endless subjects in their own right which I don't wish to go into at this time. However, I do think that we have adequate evidence, both direct and indirect, to begin to make some sensible suggestions and investigations with regard to how the Soviets use their military manpower; that is to say:

- How wasteful they are;
- How effective they are; and
- What it is that they are trying to improve?

One can address these questions particularly well in terms of micro-units and microtactics. The prime concern of the Soviets at the moment, as you know, is not with the general operation of the system, but it is clearly with their grievous misgivings with regard to the performance, attitudes, and the effectiveness of the sub-units. It is the sub-unit that really really worries them, and it is in the sub-unit that all these problems of performance and utilization come together. A great deal of spurious rubbish is developed by the Soviets to "paper over the cracks," and a great deal of verbage is expended on concealing what is clearly wrong at the sub-unit level. You only have to talk to a Soviet captain or a senior lieutenant to find out that this chap has problems, and real problems, in a military system which, though it aids him substantially in many respects, seems to work against his interests in a curious way (of which many of them are very well aware) and to place demands upon him which are frankly quite staggering. To develop an understanding of these problems and their ramifications at the sub-unit level is really not difficult to do. It has probably been done by hordes of intelligence agents. However, as you well know, it has not been done in the open academic community at large. In fact, very little research has been done on this subject in a systematic, reputable, and academic sense. Clearly, that's where one could use a social psychologist, some statisticians, and other specialists to conduct certain internal tests with regard to the Soviet system. As I say, we do have a cross-check because, by visiting Warsaw and Budapest, it is possible to talk to men who are as sophisticated as we are in this area. We can really use the same language in discussing the problem, and we can also use it as a yardstick for the Soviets as well. So, we can compare the problems and, utilizing the same language, make fairly deep investigations of the patterns of the officer corps, the sub-units,

and, above all, what happens when several disciplines come together in Soviet and non-Soviet Warsaw Pact Forces -- for example, when the trainers, the designers of training equipment, the field commanders, the military management, and indeed many others (to include the medical personnel) all come together. The study of stress on the battlefield and some of the physiological studies which have been done are really very good. When the people who do these studies get together, you can learn something quite interesting.

SUMMATION

Now, I would like to sum up very quickly what I would like to see accomplished. First of all, let us avoid foolish and endless disputation with regard to concepts which, I understand, are difficult. Instead, we need to understand the language of Soviet military manpower practices and, in particular, the terminology of social and technical usage, the degree to which their terminology is technical, and to what degree much of it is just unlearned verbage. A glossary of that kind would be quite useful to us and, by the way, useful to them. It would do a lot of good, for it's astonishing how involved the language is that one has to use in the Soviet Union. The Russian language lends itself very easily to a kind of easy bombast, and there is a sort of Russian Hegelianism which seems to encourage this involved verbage. Once you get into this area, you're forced to follow the train of discussion and problems, like a musical score, and they are constantly switching keys and you constantly have to de-code them. In this context, you must repeatedly ask yourself:

- Are they using the term in a social sense?
- Is it a technical/military term?
- Has he read it in literature?
- Is he an idiot or is he accomplished?

The latter is a difficult problem to assess; i.e., the level of competence of the individual to whom you are speaking. Therefore, it's a "puzzle

within a puzzle" that can best be solved by a "direct assault."

Of the three problem areas which I've mentioned, the first one pertaining to general military manpower, which is common ground, seems to me to present the least number of problems. With respect to the second problem area on the tactical, technical, and professional qualities of Soviet officers, we do have fairly good insight into the East European countries so as to be able to conduct a running check on the Soviet system and vice versa. There is an abundance of literature available and, furthermore, I have had long conversations with many knowledgeable Eastern European personnel in this subject area. Generally speaking, one has less difficulty in making contact with the proper people who, by the way, also expect an insight from us as social scientists -- which appears to be perfectly fair. The real difficulties there are those associated with the research.

Finally, with respect to the utilization of manpower, to the performance of the system, and what the system is supposed to deliver, the problems are extremely difficult. Here, one becomes involved with training techniques, patterns, and so on, which the Soviet command has by no means elucidated to itself and which involve many strange muddles, contradictions, partial successes, and considerable self-deception which, I suppose, is only natural in any bureaucratic organization. However, it really goes a little far -- to the extent that you can even force them to laugh ruefully at themselves over what is a gross exaggeration. Little exaggerations, yes, but gross ones are disgusting. However, I think that they are aware of the dangers therein.

In short, those are some of the propositions that I would like to advance. Although I didn't go into detail, I hope that I have not skirted over the subject by means of generalizations. I have tried to avoid the trap of using a general discussion about conflict, which I think is a waste of time. What I should like to suggest in particular is that, for investigative purposes, you can begin with some small tasks which, in fact, might lead to good results, both in the short-term and on a long-term basis.

APPENDIX D

**AN OVERVIEW OF MANPOWER IN THE
SOVIET MILITARY-INDUSTRIAL COMPLEX**

AN OVERVIEW OF MANPOWER IN THE
SOVIET MILITARY-INDUSTRIAL COMPLEX

By Mr. James T. Reitz

INTRODUCTION

In this overview, I hope to provide you with a brief insight into a series of selected Soviet governmental activities which have contributed in the past, and seem likely to contribute in the future, to the overall Soviet military posture. In addition to a general discussion of the Soviet Ministry of Defense (MoD), I will describe several, but not all of the agencies of the Soviet command economy within which the MoD operates and upon which it can draw (and frequently has drawn) immediate, organized, and at least partially quantifiable support in a manner quite alien to that of the armed forces of a Western democracy. A portion of what I have to say will undoubtedly be "old hat" to some of you, but I doubt that all of it will be "old hat" to most of you.

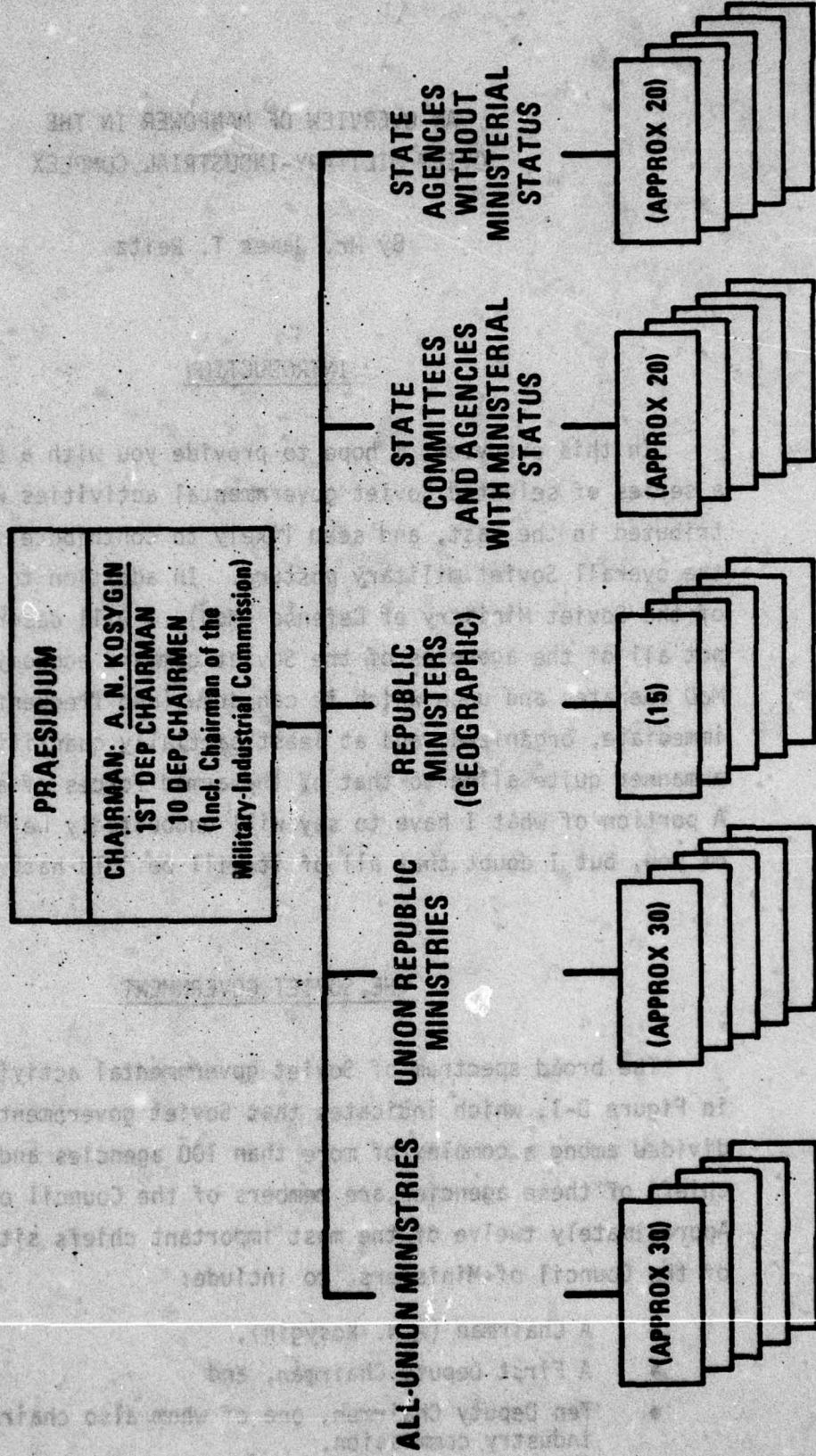
THE SOVIET GOVERNMENT

The broad spectrum of Soviet governmental activities is reflected in Figure D-1, which indicates that Soviet governmental functions are divided among a complex of more than 100 agencies and that many of the chiefs of these agencies are members of the Council of Ministers. Approximately twelve of the most important chiefs sit on the Praesidium of the Council of Ministers, to include:

- A Chairman (A.N. Kosygin),
- A First Deputy Chairman, and
- Ten Deputy Chairmen, one of whom also chairs a military-industry commission.

USSR COUNCIL OF MINISTERS

FIGURE D-1



The Council is the governmental organ and day-to-day executive agent for the real ruling body of the Soviet Union -- the 15-man (now 14-man) Political Bureau of the Central Committee of the Soviet Communist Party, which has been the sole legal political party in that country for nearly 60 years. Some Politburo members (notably Premier Kosygin, Defense Minister Ustinov, and KGB Chief Andropov) hold top ranks in both the Party and the Government. Other Politburo members (notably Secretary Brezhnev and Party ideologue Suslov) have no announced government positions -- preferring, as they do, to operate behind the governmental scene. Brezhnev, who was recently promoted to the rank of Marshal of the Soviet Union, is also the head of the Defense Committee and, thus, of the Soviet Armed Forces.¹ Among his predecessors, Stalin and Khrushchev also held these two posts. Many top Party members also hold positions in the upper ranks of the Council of Ministers, so that they, as makers of Party policy, can oversee the execution of their own policies by the Government.

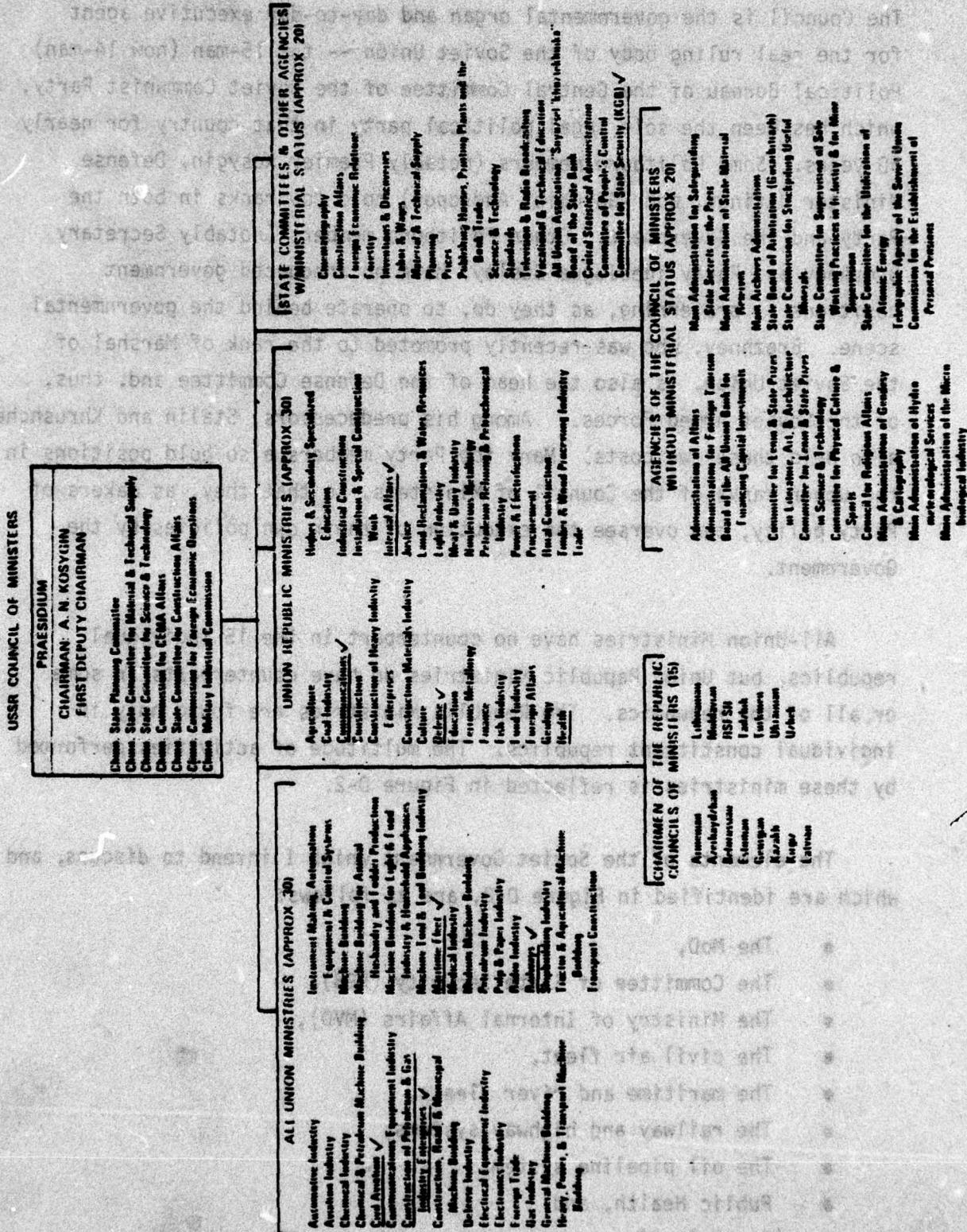
All-Union Ministries have no counterpart in the 15 individual republics, but Union Republic Ministries do have counterparts in some or all of the republics. The Republic Ministries are found only in individual constituent republics. The multitude of activities performed by these ministries is reflected in Figure D-2.

The elements of the Soviet Government which I intend to discuss, and which are identified in Figure D-2, are as follows:

- The MoD,
- The Committee of State Security (KGB),
- The Ministry of Internal Affairs (MVD),
- The civil air fleet,
- The maritime and river fleets,
- The railway and highway systems,
- The oil pipeline system,
- Public Health, and
- Communications.

¹ And is now Chairman of the Praesidium of the Supreme Soviet, U.S.S.R.

Figure D-2



The variety of other agencies simply provide an indication of the total concentration of economic, political, and social power in the hands of the Soviet Government -- and the Communist Party. This total concentration permits the complete mobilization of human and material resources for the purpose of attaining political-military, economic, and industrial objectives.

THE MINISTRY OF DEFENSE (MoD)

The organization of the Soviet MoD is presented in simplified form in Figure D-3. The current uniformed manpower strength of the MoD is estimated in various open sources to be in the order of 3.5 million -- a figure which I believe is considerably "on the low side." The newly-appointed and newly-promoted Defense Minister is Marshal Ustinov, a Politburo member and long-time head of defense industries.

The major Service components of the Soviet Armed Forces are the:

- **Ground Forces,**
- **Navy,**
- **National Air Defense Forces,**
- **Air Forces, and**
- **Strategic Rocket Forces.**

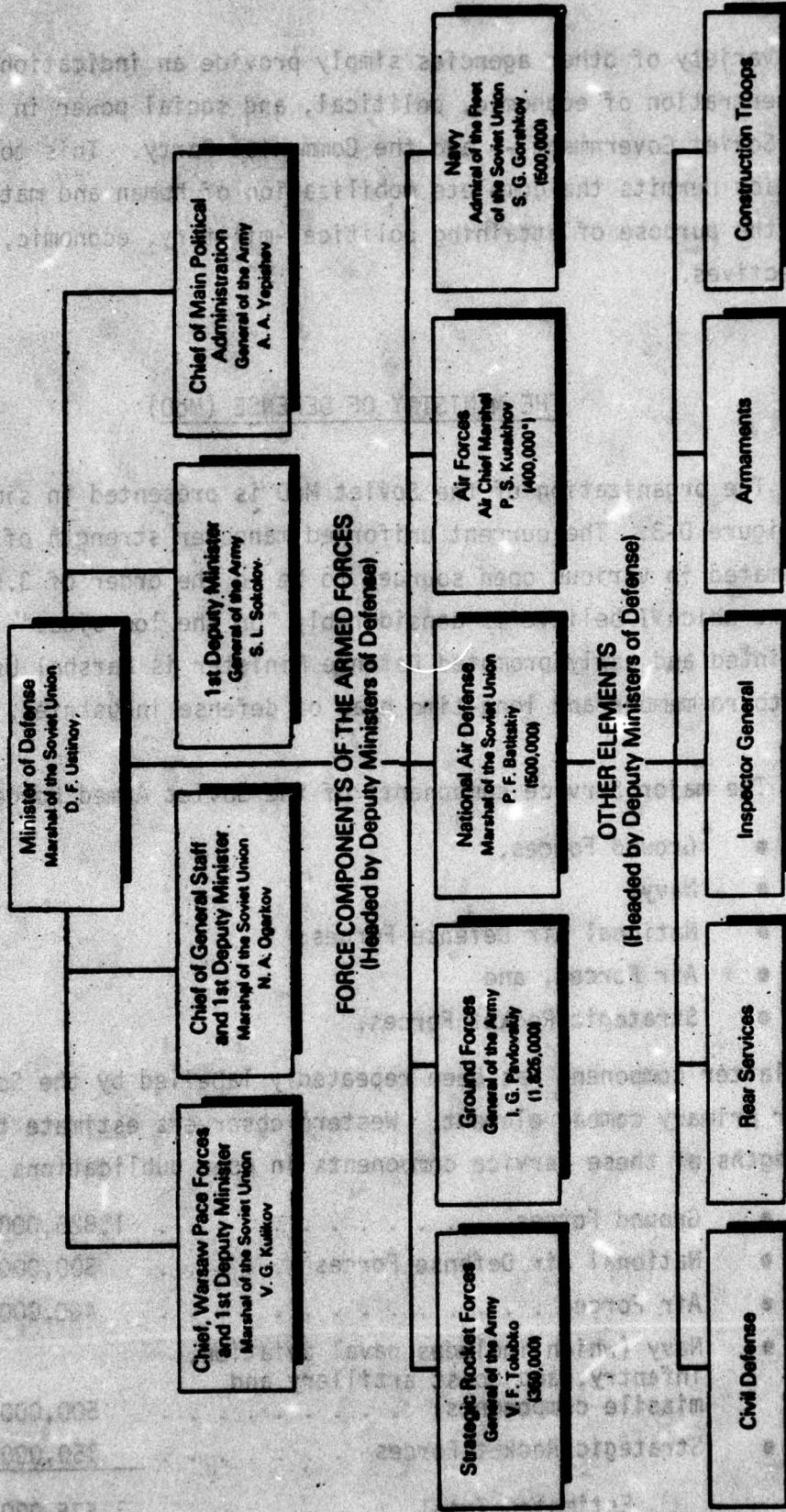
The latter component has been repeatedly labelled by the Soviets as their primary combat element. Western observers estimate the current strengths of these Service components in open publications as follows:

● Ground Forces	1,825,000
● National Air Defense Forces	500,000
● Air Forces	400,000
● Navy (which includes naval aviation, infantry, and coast artillery and missile components)	500,000
● Strategic Rocket Forces	350,000

Estimated Total **3,575,000**

Figure D-3

MINISTRY OF DEFENSE



In addition to naval aviation and national air defense aviation, there are three other aviation components, which are referred to as the Military Air Forces, or VVS. These components are Long-Range Aviation; Frontal Aviation; and Military Transport Aviation. The Strategic Rocket Forces presumably man a mix of more than 2600 intercontinental and shorter range missiles.

Within the Soviet Defense Ministry, other key figures are the three First Deputy Defense Ministers: Marshal Kulikov (Warsaw Pact Commander-in-Chief), Marshal Ogarkov (Chief of the Soviet General Staff), and Army General Sokolov -- whose duties have never been officially announced. The Chief of the Main Political Directorate, Army General Yepishev, probably has the prerogatives of a First Deputy Minister. Political work and orientation are considered as important as military performance within the Soviet system, which is also reflected in the existence of as many as nine political officer candidate schools within the Soviet Armed Forces. Some other very important individuals at the ministry level, almost all of whom are Deputy Defense Ministers, are the Chief of Rear Services (or chief of logistics) for all of the Armed Forces, the Inspector General, and the Chief of Civil Defense.

One reason why I feel that the figure of 3.5 million for the Soviet Armed Forces in uniform is low is that no satisfactory estimate has been presented in open literature during recent years for such elements of the Soviet Armed Forces as the civil defense troops, railway and construction troops, road construction troops, and oil pipeline troops. Therefore, more realistic estimates might add as many as 800,000 troops to the MoD figure. Other analysts would estimate instead that there are some additional 700,000 uniformed civilians in the MoD (e.g., construction and railway troops). The ratio of MoD civilians, uniformed or otherwise, to troops is another very nebulous, but important, area because MoD civilian and military personnel (either separately or jointly) manage literally hundreds of activities, such as manufacturing plants, collective farms, post exchanges, book stores, libraries, clubs, sanatoria, and tourist camps.

Of course, these MoD manpower figures do not reflect the tremendous advances made by the Soviets in deployed weaponry -- in particular, strategic and naval missiles; the new, more sophisticated Frontal Aviation aircraft, and the great quantities of new Ground Force materiel, much of it unsurpassed in any arsenal anywhere. Neither do these figures reflect the growth of Soviet organizational capabilities and durability over the last decade both within the line division and in the numbers and types of combat support and logistic support units and materiel above division level in terms of firepower, mobility, antiaircraft, chemical/biological/radiological, and engineering capabilities.

NON-MoD MILITARY ACTIVITIES

Turning now to a selected group of non-MoD military activities which are mostly service, rather than production, oriented, I will briefly summarize their organization, functions, capabilities, and manpower. Several of these activities are manned by fully trained troops, but are subordinate to the KGB or the MVD rather than to the MoD. The other activities which I will describe include security, service, and transport organizations that facilitate the routine functioning of regular MoD service and transport forces in peacetime or that have made direct contributions to the military effort in combat or combat support roles during wartime. Many of these activities are wholly or partly militarized according to one or more of the following characteristics:

- They are armed;
- They have wartime, as well as peacetime, missions to assist MoD forces;
- Some units are fully militarized, although outside the MoD;
- The militarized units are distinguished by uniforms, ranks, grades, and organizational structures similar to those in military organizations; and
- Most of these organizations have: -- Separate professional school systems,

- Codes of discipline and conduct stricter than normal civil law, and
- Their own organic housing, medical services, recreational facilities, and even dependent school systems.

It would be very difficult for a Soviet citizen to leave some of these organizations to seek other employment.

KGB Border Troops and MVD Internal Troops

Of the foregoing organizations, the first two are bonafide, elite troops, categorized in the West as paramilitary but, according to Soviet law, they are integral elements of the Soviet Armed Forces. These organizational elements are the border troops of the KGB, and the internal troops of the MVD. These forces have existed in some form for nearly 60 years and have always been under one or two security agencies, juxtaposed to MoD forces as an additional assurance of the stability of the regime. They have been used to close the State borders and restrain restiveness and disorder among the populace, including MoD forces -- when the need arose. From 1924 to 1934 when an edict established the level of MoD forces at 562,000 men, the border troops had a reported strength of 100,000 and the internal troops numbered 150,000. During World War II, the strength of these security forces reportedly expanded to over 700,000. They served with the Soviet Ground Forces on all fronts as shock troops, rear area security troops, and in a number of other assignments. Unclassified U.S. estimates of the number of these troops declined to 400,000 in the late 1940s and remained at that level for more than a decade before being further reduced. These estimates are reflected in Table D-1. Several other unofficial estimates (including those of former officer defectors from the border guards) place the overall strength of these forces at double the conservative figures shown in Table D-1. The latter estimate is consistent with the postwar increase in the Soviet population by more than 60 million, the postwar expansion of the Soviet land area by 800,000 square kilometers, and the tremendous qualitative increases in the capabilities of MoD troops -- against

Table D-1

**WESTERN OPEN SOURCE
ESTIMATES OF SOVIET BORDER AND INTERNAL
TROOP STRENGTHS**

INTERNAL TROOPS (MP)
230
130
125
75

BORDER TROOPS (KGB)
200
180
175
175

1976	1968	1966	1964	1962	1960	1958
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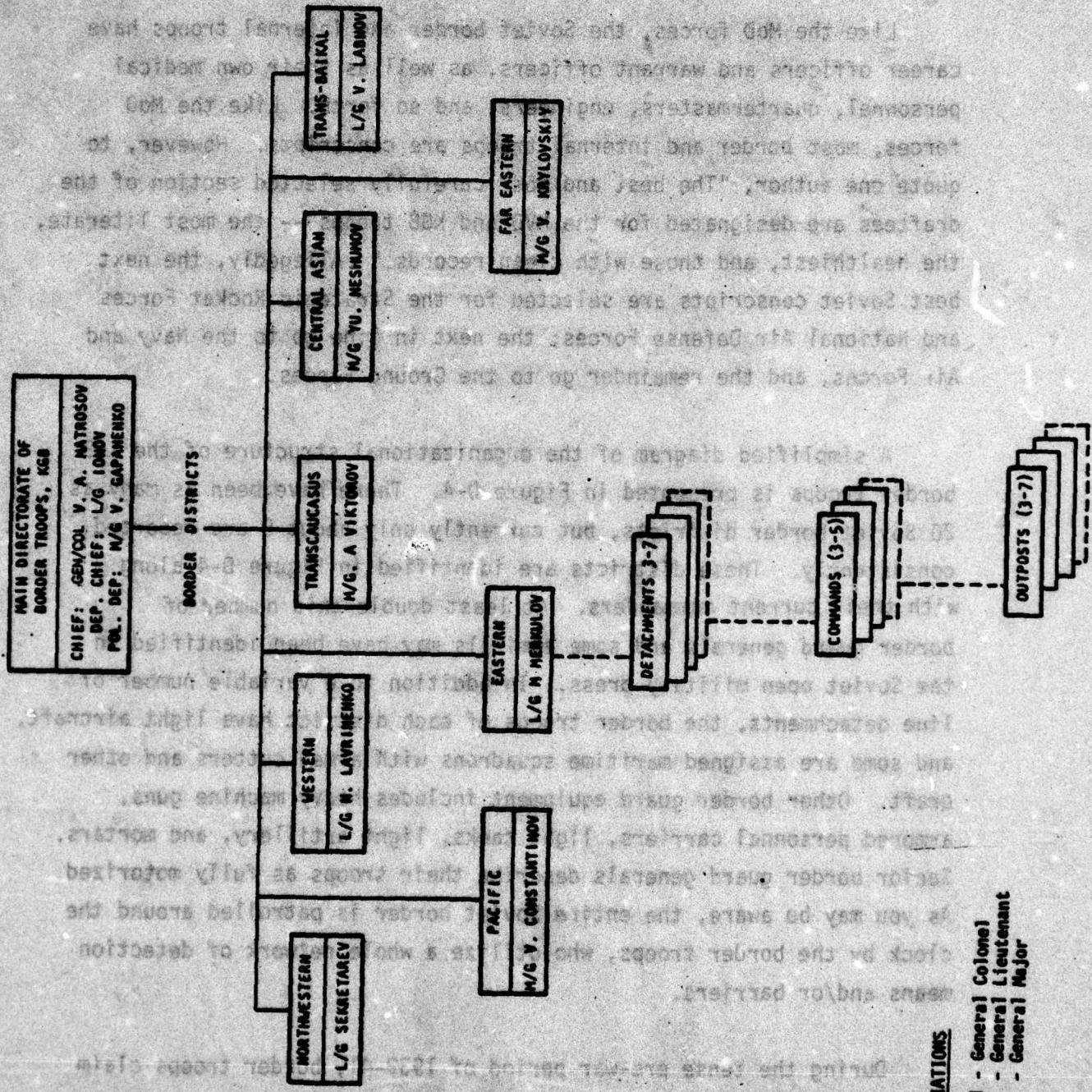
which the Soviet security forces are in part a potential counter-weight.

Like the MoD forces, the Soviet border and internal troops have career officers and warrant officers, as well as their own medical personnel, quartermasters, engineers, and so forth. Like the MoD forces, most border and internal troops are conscripts. However, to quote one author, "The best and most carefully selected section of the draftees are designated for the MVD and KGB troops -- the most literate, the healthiest, and those with clean records." Allegedly, the next best Soviet conscripts are selected for the Strategic Rocket Forces and National Air Defense Forces; the next in line go to the Navy and Air Forces, and the remainder go to the Ground Forces.

A simplified diagram of the organizational structure of the KGB border troops is presented in Figure D-4. There have been as many as 20 Soviet border districts, but currently only about 8 are reported consistently. These districts are identified in Figure D-4 along with their current commanders. At least double this number of border guard generals and some admirals may have been identified in the Soviet open military press. In addition to a variable number of line detachments, the border troops of each district have light aircraft, and some are assigned maritime squadrons with armed cutters and other craft. Other border guard equipment includes heavy machine guns, armored personnel carriers, light tanks, light artillery, and mortars. Senior border guard generals describe their troops as fully motorized. As you may be aware, the entire Soviet border is patrolled around the clock by the border troops, who utilize a whole network of detection means and/or barriers.

During the tense pre-war period of 1939-41, border troops claim that they killed or wounded 8,000 border violators. When the Germans attacked, however, the border troops were the first to be engaged and many units were literally wiped out. In the latter stages of the war, border troops fought on all fronts and participated in the assaults upon all of the East European capitals. Four numbered Soviet Armies consisted

Figure D-4



entirely or almost entirely of border troops. Border troops were also involved in the initial Soviet assaults in the Far East. Soviet sources credit some 20,000 border guard snipers with killing over 150,000 of the enemy during the War. Presumably, the tense situation along the Sino-Soviet border during the past few years has warranted a sizeable increase in the strength not only of the border troops posted there, but also the MVD troops. In this context, it should be remembered that it was the border guards, not the Soviet Army, who fought in the open clashes with the Chinese during 1969-1970.

Figure D-5 reflects not only the Main Directorate of the KGB border troops, but also such related, though rather obscure, elements as the government signal troops, which were organized during World War II -- apparently to improve both communications security and to perform some signal intelligence functions. These troops handle the most important, top-level military, Party, and Government civil communications. During World War II, it was estimated that there were in the order of 15,000 of these troops. With the advances and diversification in communications, this number might now easily be doubled. Another very obscure element associated with KGB border troops consists of a body of troops similar to the MVD special objective guards. Several experts believe that these troops guard the Party and Government headquarters at the national, as well as at the republic (of which there are 15) and possibly the oblast (of which there are about 120) levels. Another function of these guard troops is possibly some aspects of the handling and storage of nuclear weapons and other special munitions -- which would be in the tradition of the manning of the first multiple rocket launchers by MVD troops during World War II. As may also be noted in Figure D-5, the KGB has a large body of counterintelligence and positive intelligence operatives.

Figure D-6 presents a very simplified diagram of the organizational structure of the MVD internal troops under their long-time Minister, Army General Shchelokov. As may be observed, the MVD internal troops,

Figure D-5

**KGB TROOP AND OTHER SECURITY
AND INTELLIGENCE ELEMENTS**

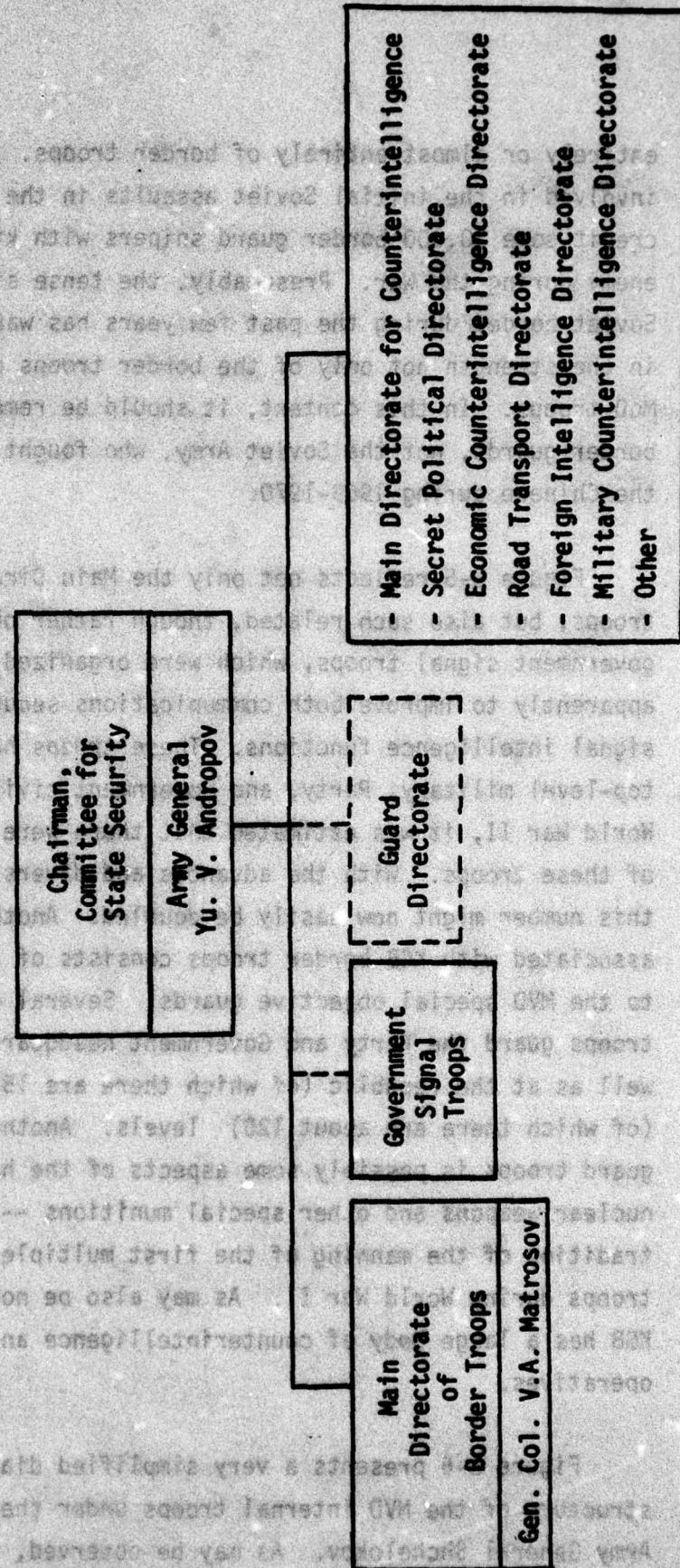
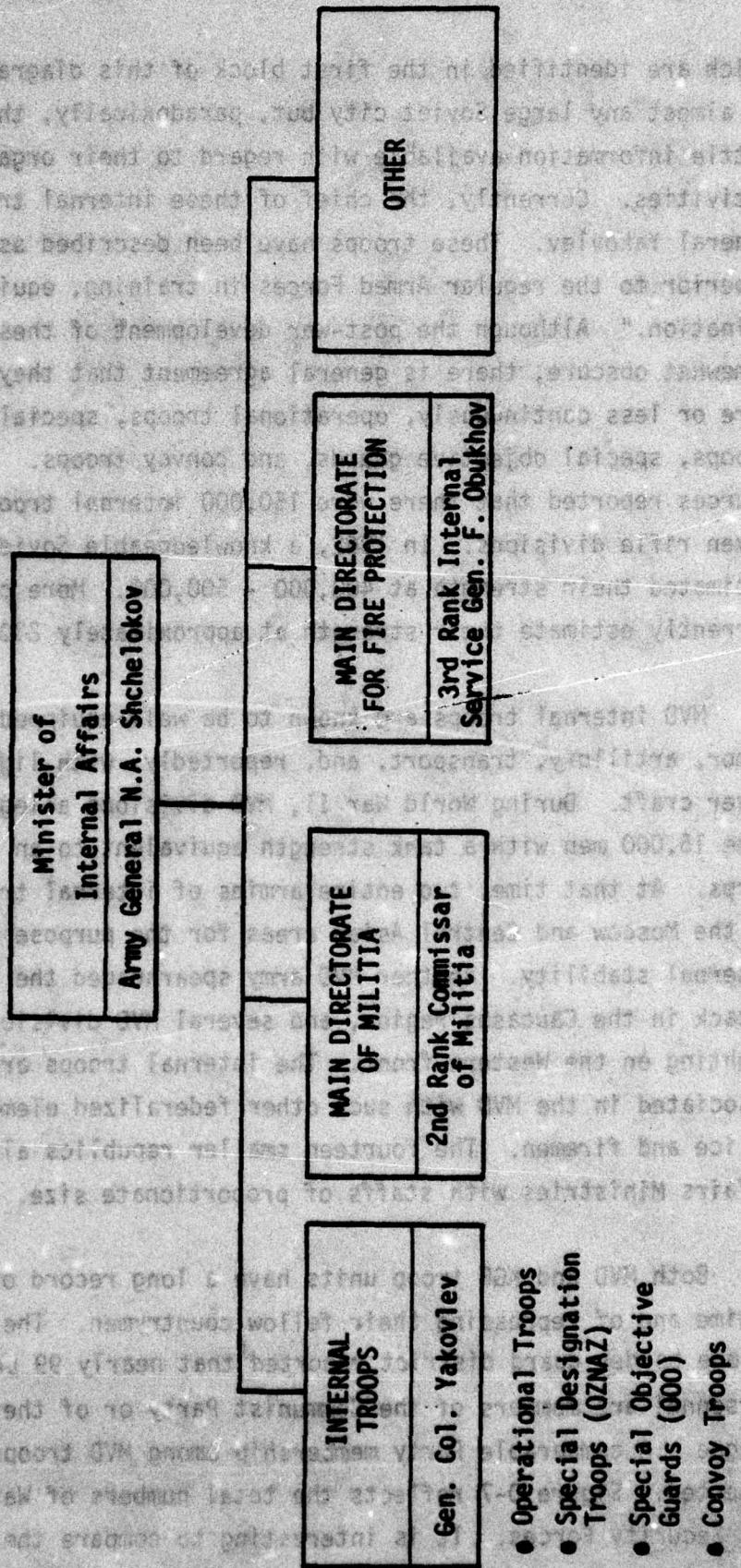


Figure D-6

MVD TROOP AND OTHER SECURITY ELEMENTS



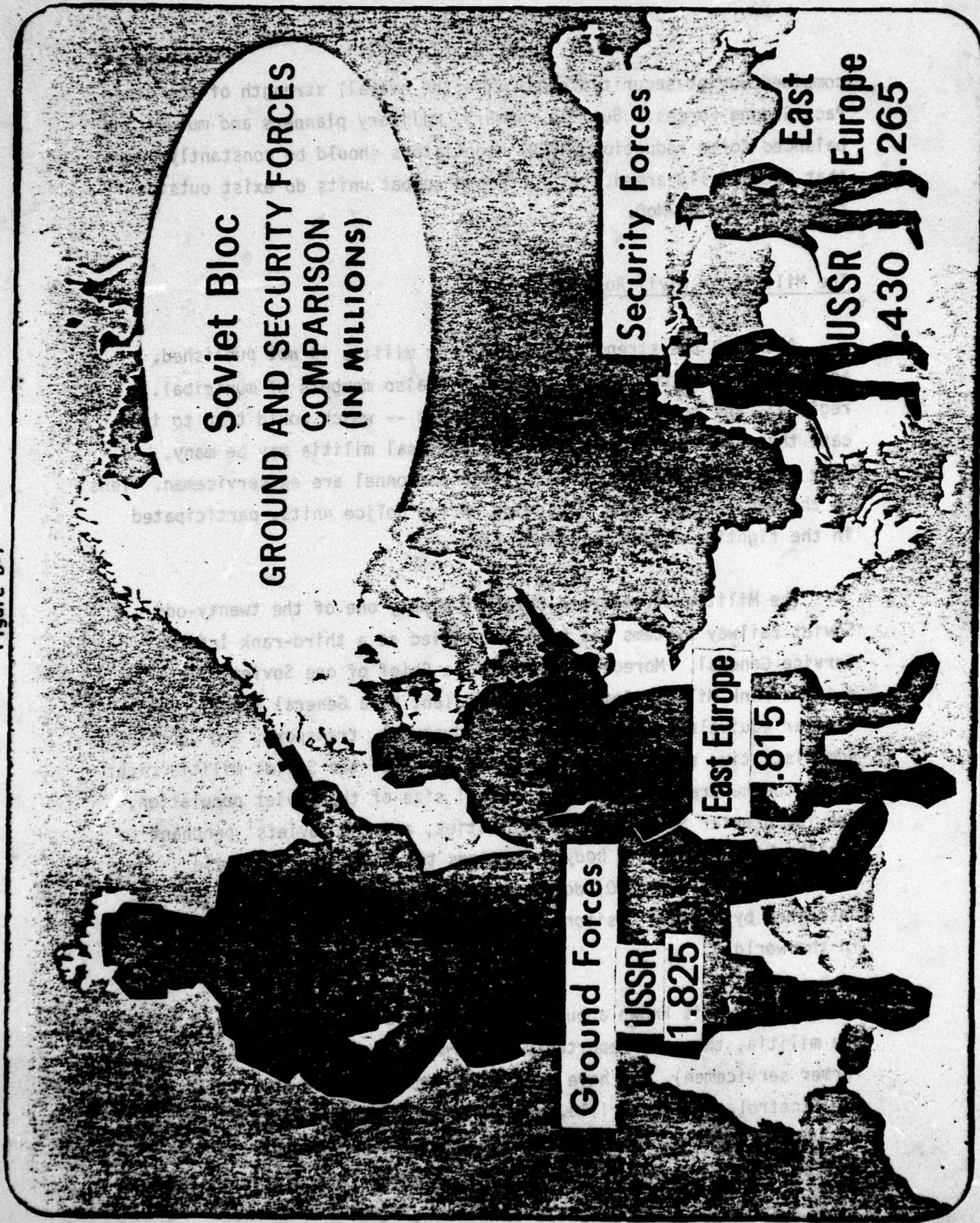
- Operational Troops
- Special Designation Troops (OZNAZ)
- Special Objective Guards (OOO)
- Convoy Troops

which are identified in the first block of this diagram, are visible in almost any large Soviet city but, paradoxically, there is very little information available with regard to their organization and activities. Currently, the chief of these internal troops is a Colonel General Yakovlev. These troops have been described as "an elite body superior to the regular Armed Forces in training, equipment and indoctrination." Although the post-war development of these troops is somewhat obscure, there is general agreement that they have included, more or less continuously, operational troops, special designation troops, special objective guards, and convoy troops. Pre-World War II sources reported that there were 150,000 internal troops organized in seven rifle divisions. In 1962, a knowledgeable Soviet officer defector estimated their strength at 400,000 - 500,000. More conservative sources currently estimate their strength at approximately 230,000 or less.

MVD internal troops are known to be well-equipped with light armor, artillery, transport, and, reportedly, with light aviation and river craft. During World War II, MVD divisions allegedly consisted of some 15,000 men with a tank strength equivalent to an army mechanized corps. At that time, two entire armies of internal troops were stationed in the Moscow and Central Asian areas for the purpose of maintaining internal stability. Another MVD army spearheaded the Soviet counter-attack in the Caucasus region, and several MVD divisions were reported fighting on the Western front. The internal troops are generally associated in the MVD with such other federalized elements as the civil police and firemen. The fourteen smaller republics also have Internal Affairs Ministries with staffs of proportionate size.

Both MVD and KGB troop units have a long record of loyalty to the regime and of repressing their fellow countrymen. The commander of one border guard district reported that nearly 99 percent of his personnel are members of the Communist Party or of the young Communist League. A comparable Party membership among MVD troops may also be expected. Figure D-7 reflects the total numbers of Warsaw Pact Ground and Security Forces. It is interesting to compare the strength of the

Figure D-7



combined Soviet security troops with the overall strength of the other Pact Ground Forces. But, in summary, military planners and mutual and balanced force reduction (MBFR) negotiators should be constantly aware that these fully armed, fully trained combat units do exist outside the framework of MoD.

The Militia or Civil Police

Although the strength of the Soviet militia is not published, approximately 10,000 of its members are also members of municipal, regional, and republic executive councils -- which would tend to indicate that the total strength of the national militia may be many, many times that number. Most militia personnel are ex-servicemen. Tens of thousands of militia, including entire police units, participated in the fighting during World War II.

The Militia Directorate Chief of simply one of the twenty-odd Soviet railway systems has been identified as a third-rank Internal Service General. Moreover, the Militia Chief of one Soviet oblast is a third-rank Militia Commissar (equivalent to a General Major). With similar equivalents throughout the industrial, transport, and geographic administrative sectors, the command element of the Soviet militia might be in the hundreds. Given the overall size of the Soviet population, the far greater Soviet police activities, and the Soviets' penchant to "featherbed", a militia body 2-2½ times the number of U.S. paid policemen (i.e., 400,000) does not seem unlikely. Moscow, itself, is described by Western visitors as one of the most heavily policed cities in the world.

Even less is known about the militarized MVD Fire Command. Like the militia, they are reportedly uniformed volunteers (including many former servicemen), may have some small arms, and are apparently given riot-control, anti-guerrilla, and other rudimentary military training. They were recently commanded by an MVD third-rank Internal Service General and are organized in battalion, company, and platoon-sized

units. The actual strength of this militia-like body is unknown, but firehouses are numerous in the large Soviet cities -- at least roughly equivalent to the number in the U.S. General Obukhov, the late Fire Guard Chief, has described the World War II duties of the Fire Command in terms of providing fire protection for important defense plants, transportation centers, bases, warehouses, and other key installations with the help of the local Air Defense (MPVO) organizations -- the antecedents of the present extensive Civil Defense system. General Obukhov has written that his organization maintains "working contact with Civil Defense staffs and participates in various studies" in damage prevention and damage control under nuclear warfare conditions.

National Transportation Systems

Turning now to the state-owned, federalized transportation systems of the Soviet Union (e.g., the civil air fleet, the railways, the maritime fleet, the river fleet, the oil pipeline system, and the highway transportation system), it is interesting to observe that most of these activities are militarized to some degree, have hierarchical rank structures, and possess their own school systems. Moreover, they sometimes have segregated housing and political officers, but all of them undoubtedly have their attached KGB counterintelligence "watchdog". Many of the personnel in these national transportation systems are uniformed, are governed by strict labor codes, and are further regimented in the sense that they have their own clubs, newspapers, medical services and other similar activities. Some of these systems (e.g., the merchant fleet and the civil air fleet) have virtually the same status as military reserve components. To some extent, these elements all participate in the logistical support of the day-to-day operations of the Soviet Armed Forces, and all participated heavily in the logistical support of these forces during World War II. Many merchant marine, river fleet, and civil aviation elements took part in the actual fighting, while civil rail and highway components teamed with military rail and highway units under military control and often under fire.

The Soviet Railway System

The Soviet Railway Ministry controls a railway system which extends over some 138,500 kilometers and is the world's largest under single management. It transports three-fifths of all domestic freight and has a major responsibility in the routine, peacetime operations of the Soviet Armed Forces. Obviously, the railway system would be absolutely essential in any prolonged Soviet combat situation. In recent years, as many as 2.5 million people have been reported as directly employed in all phases of railway transport activities.

The Railway Ministry is organized on a semi-military basis, with a rank structure consisting of commissioned grades and strict control of all personnel. The Ministry has nearly 100 professional schools, elaborate medical and communications systems, and its own housing. It also has some ministerial police and other uniformed armed guards who monitor specific shipments, rail and marshaling yards, and railway switches. It is possible that the latter guards may actually be MVD personnel on loan to the railways.

During World War II, the Soviet railway system was operated by the Chief of the Soviet Army Rear Services who, until 1948, also served as Minister of Transport. Under his direction, major units of railway troops and civil rail construction units operated in tandem. These joint military/civil units allegedly restored some 60,000 miles of track. During the big "Dnepr" maneuvers of 1967, Soviet military and civil railway personnel received a citation for working so well together. Later, during the 1968 invasion of Czechoslovakia, Soviet railway crews transported troops and equipment into Czechoslovakia. In this context, it is quite possible that the Chief of Soviet Rear Services may again be given responsibility for all rail transport due to heavy Soviet dependence upon railways for military logistic support.

The Soviet Highway System

The Soviet highway system is less important for military logistic support than the railway system, but it is of growing tactical significance in the short-haul field, wherein it significantly supplements the railway system. Most Soviet road-building and motor transport operations are conducted through republic-level ministers. Transport operations are divided into either departmental or common carrier, where departmental transport is that which belongs to various industrial ministries, trusts, and factories.

During World War II, virtually all motor transport and road construction and maintenance resources were mobilized to support the military effort. Soviet mobilization directives outlined the manner in which motor and horse-drawn vehicles were to be made available. Presumably, the thousands of military commissariats which are spread throughout the country have this responsibility today. Soviet sources state that, during World War II, "the automotive park which was left to serve the needs of the civil economy was decidedly truncated" and that military and civil road builders were credited with building or repairing 140,000 kilometers of roads during the War.

In 1967, the Soviet Union called up thousands of reservists to operate civilian trucks and pieces of road-building equipment which were mobilized to participate in the largest peacetime rear service exercise ever conducted. Coincidentally, the exercise occurred during the Soviet annual harvest time. Moreover, it was expanded to become a Warsaw Pact exercise and, coupled with other communications and air defense exercises, it evolved into the invasion of Czechoslovakia. In the future, such "mushroom" exercises could well be an indicator of Soviet intentions.

The Soviet Merchant Marine

Jane's Fighting Ships states that the Soviet Union regards its merchant fleet not only as an essential element of the national economy at all times, but also as a vital fourth arm of defense in the event of an emergency. This authoritative document also states that "the Soviet

Navy draws freely from the mercantile pool when it is in the interests of the fighting services." Soviet merchant shipping would undoubtedly support any large-scale Soviet military venture involving a region/country which is not contiguous to the U.S.S.R. (e.g., Scandinavia, Southern Europe, or possibly Cuba).

The Soviet merchant fleet is now approximately fifth in size among the world's fleets with many comparatively new, highly automated, fast ships. In striving to achieve first place by the 1980s, the Soviet Union is developing its fleet into a formidable arm of foreign trade and a means of implementing foreign policy. Soviet merchant ships reportedly visit more than 800 ports in over 90 countries each year. Moreover, Soviet statistics indicate that 290,000 people are involved in all of the various activities of the merchant fleet.

During World War II, the Soviet merchant fleet was almost completely militarized in "carrying out tasks assigned by the military high command..." "Mobilization and military restructuring of maritime transport were introduced -- all efforts were subordinated to wartime needs." Soviet merchant vessels participated in amphibious combat operations and in the supply of besieged cities. They also served as armed merchantmen operating between the Soviet Union and the West, sometimes sailing under combat conditions without escort.

The highly modernized Soviet sea-going fishing fleet consists of 4,000 vessels, while its oceanographic fleet has some 200 vessels. These ships are deployed around the globe and are reputed to constitute the world's largest fleets in these categories. Over 800 Soviet fishing vessels and 20,000 men operate in the Western Atlantic alone.

The Soviet merchant fleet, fishing fleet, and oceanographic fleet all engage in the extensive collection of intelligence and in providing support for subversive activities. Soviet naval specialists have reportedly been assigned to all three of these civil fleets for strategic, electronic, photographic, hydrographic and other intelligence purposes.

The three fleets operate under authoritative, naval-like regulations and semi-naval discipline. The Commander of the Soviet Navy, Fleet Admiral Gorshkov, has repeatedly labelled these civil fleets as elements of Soviet sea power, along with the Navy itself.

The Soviet River Fleet

Although little publicized, Soviet river craft still handle more bulk cargo than does the merchant marine. These craft operate over 145,000 kilometers of natural and 20,000 kilometers of improved waterways which criss-cross the country, but are located mostly in Soviet Europe. Functionally, Soviet river traffic is controlled at the republic level, and approximately 115,000 people are involved in all of its various activities. As is true of the merchant fleet, the members of the river fleet have their own uniforms, grades, insignia, transport schools, housing, and medical facilities.

Soviet sources state that World War II forced "a basic restructuring of river fleet work" ... Many craft were armed and performed hundreds of river crossings during military operations, particularly at Leningrad and Stalingrad. With regard to the future military utility of the river fleet, the Volga River system has been described as the single most utilized Soviet transportation artery -- equivalent in tonnage handled to the combined capacity of a large number of the mainline railroads of equal length. New classes of sea/river ships have eliminated the need for transfers between ocean-going and river craft, and improvements in the canal system now permit ships to reach Moscow from the Black, White, Baltic, Azov, and Caspian Seas. The river system has also been used for some years to transfer small naval vessels, including destroyers and submarines, back and forth among these seas.

The Soviet Oil Pipeline System

By comparison with the foregoing transportation systems, the Soviet oil pipeline system has developed quite recently, but is has already

acquired great strategic significance. Until 1950, less than one percent of Soviet freight was transported through pipelines. Now, the volume of this commodity handled by the pipeline system surpasses the volume of freight handled by river and motor transport.

During World War II, only 4,000 kilometers of pipeline existed within the Soviet Union. Now, the total exceeds 55,000 kilometers with a significant increase in the diameter of the pipe as well. Of extreme importance in any Warsaw Pact military operations within Europe is the "Druzhba" or "Friendship" pipeline which extends from deep within the Soviet Union to Czechoslovakia, Hungary, Poland and East Germany.

Soviet planners project that, by 1980, fifteen percent of their freight turnover will be oil -- nearly all of which will be transported by pipeline.

The Soviet Civil Air Transport System

The Soviet civil air transport system or Aeroflot, as it is called, is the world's largest single airline. Its aircraft are estimated to number from 1500 of all types to 2000 multi-engine, fixed-wing aircraft and unknown numbers of lighter airplanes and several hundred helicopters.

While newer and larger aircraft may reduce these estimates, Aeroflot will probably still maintain several hundred large transport aircraft, including some commercial versions of bombers. Western commercial aviation experts estimate that Aeroflot's personnel number between 300,000 and 400,000, which includes unknown thousands of pilots. An active Soviet Air Force general colonel, who is also a First Deputy of the Soviet Civil Air Ministry, has grudgingly admitted that Aeroflot employs "several hundreds of thousands" of people. Aeroflot builds and operates all civil air facilities, has its own communications, maintenance and supply systems, and uses (or shares with Soviet military aviation) more than 1000 airfields of all types. Many Aeroflot personnel

are Air Force veterans, and all are graduates of a widespread Aeroflot air and ground school system. During the Stalin era, Aeroflot was openly recognized as an element of the Soviet MoD.

Aeroflot was placed under the State Defense Committee during World War II. Many Aeroflot aircraft and personnel were organized into large military formations. As a matter of fact, the military Air Forces assumed control of much of its training system for the combat training of Air Force personnel. Under the operational control of the Soviet Air Forces, much of Aeroflot was used for airborne troop lift, search and rescue work, air resupply of troops, and bombardment missions. Aeroflot crews even refueled Soviet armor during some deep penetrations and, in addition, transported more than 330,000 wounded, "flew 40,000 partisan support missions, and dropped 37,000 paratroopers behind enemy lines. Fifteen thousand pilots, crewmen, and political workers of the Civil Air Fleet were decorated, and six Aeroflot units were awarded the Guards title. In World War II, the Soviets squeezed just about all that was possible out of their civil transport. Its close integration with the rest of the Red Army made the job of the Soviet strategist and commander much easier."

Although the Soviet civil air transport system handles only about 0.5 percent of the total Soviet freight, it does have obvious tactical and strategic significance from the standpoint of military operations, such as long-haul troop airlifts. Many other special activities of the civil air fleet (e.g., spraying, air evacuation and rescue work, and aerial photography and mapping) also have direct military applications.

The Soviet Civil Air Ministry, which controls Aeroflot, is itself militarized and uniformed. For decades, the Ministry has been headed by active Soviet Air Force officers; the current Minister is Aviation Marshal Bugayev. Several of his principal deputies are also Soviet generals of aviation.

Like the Soviet maritime fleet, Aeroflot lands at more than 50 countries and is a major instrument of foreign policy and influence. It is reasonably certain that Aeroflot also provides intelligence support. In future conflicts, Aeroflot would again undoubtedly augment the regular Air Forces. The former Aeroflot manager in Prague in 1968 allegedly guided the landings of the initial Soviet aircraft -- the first of which were Aeroflot, rather than Air Forces, aircraft. Aeroflot's recent airlifts of large numbers of conscripts to the Groups of Soviet Forces/Germany (GSFG) are another indication of its capabilities.

The Soviet Communications and Health Systems

These multi-faceted, non-defense systems provide significant support to the Soviet defense sector. The combined personnel strength of the Soviet communications and public health systems could be in the order of more than 7 million people. Like the Soviet activities previously considered, these systems are also quite highly regimented in that they have professional school systems, nationwide organizational structures, systems of medals and awards, and their own publication houses.

The Soviet Communications System

The Soviet telecommunications sector is administered principally by the Soviet Ministry of Communications (MoC). The state-owned system is designed primarily to assist the Party and the Government in administering and controlling the country; individual convenience has low priority. The basic network, which is known as the General Government Communications System, is administered by the MoC in Moscow and by 14 subordinate ministries in the smaller republics. Other major organizations, such as the Soviet Armed Forces and the Soviet transport system, have separate communications sub-systems which somewhat parallel and supplement the well-developed public system. For example, the Ministry of Defense uses the civil, or public, wire system from MoD headquarters down to the military district level, in addition to its own radio system. The transport ministries, the KGB, MVD and other organizations seem to maintain their own smaller communications networks.

Soviet communications and postal security is very tight. All international transmissions are monitored, censored, and filtered through government channels -- which are the only channels. KGB officials may be expected to be found in the communications sections of all major governmental departments and enterprises and in the MoC itself. The MoC also has numbered militarized detachments, whose functions are not clear. MoC personnel have their own hospitals, schools, and other service activities.

During World War II, MoC personnel were placed "under full military discipline." The establishment of uninterrupted communications was a prime requirement, and the load on all modes of communications was tremendous. The wartime Minister of Communications, Peresypkin, organized communications for the fighting fronts and the military rear areas west of Moscow. Later, he became Chief Signal Officer of the Red Army while continuing his ministerial duties. He remained an active Chief Marshal of Signal Troops until quite recently, although no longer the Minister of Communications. Much of the wartime communications was provided through a Central Military Directorate of the MoC. Not only did the MoC maintain normal communications, but it installed a vast network of new communications involving command posts, defense plants, hospitals, and widespread air raid alarm systems.

At the present time, the MoC either manufactures or supervises the manufacture of all Soviet-made communications equipment -- possibly on behalf of the MoD and other Soviet agencies. Much of the newest communications equipment is manufactured by the Eastern European countries or the West.

Because the Soviet military utilizes large portions of the public communications system, peacetime cooperation between the MoC and the military and other security elements would be very likely to expand in any future conflict in order to meet the military needs. In this context, extremely high-level Defense, civil government, and Party

communications are routinely transmitted by the special KGB Government Signal Troops. Moreover, the present Minister of Communications was, and still may be, an active general colonel (N.D. Psurtsev) of the Soviet Army Signal Troops.

The Soviet Public Health System

The Soviet medical complex consists primarily of the Ministry of Health (MoH) and fifteen subordinate republic health ministries. However, this complex is augmented by the medical services of the MoD, the MVD, the KGB, and other civilian elements, such as the railways, civil aviation, and the merchant fleet. The Ministries of Communications, Agriculture, Food Processing and many others have their own medical, sanitary, veterinary and/or industrial health services. The public health system is manned by nearly 850,000 physicians and surgeons and 4 million or more other lesser medical personnel (e.g., nurses, therapists, and paramedics). The majority of MoH personnel are women. The medical training is conducted in a system of approximately 100 higher schools and over 600 specialized secondary schools. Allegedly, nearly 800,000 students are involved in some phase of this medical training. Soviet sources claim more than a fourfold increase in both medical personnel and bed space since the end of World War II.

At the lowest level of the hierarchy of Soviet medical and health care are several "voluntary" multimillion member mass organizations and programs. All of them (which include civil defense organizations, DOSAAF, the Komsomol, and Young Pioneer organizations, the public schools, and other schools operating jointly under the MoH and under other government and Party sponsorship) teach first aid, personal hygiene, physical fitness, and sanitary controls -- among other things. The highly organized Red Cross and Red Crescent Societies, with a reported membership in the "tens of millions", concentrate almost exclusively upon mass medical and health care.

Soviet public health services and military medical facilities have had a close working relationship for decades. Before 1929, military medical facilities were subordinate to the forerunners of both the Health and Defense Ministries. Preventive medicine is emphasized in order to maintain a healthy national labor force, and compliance with all nationwide health measures is mandatory.

During World War II, the MoH not only furnished tremendous numbers of medical reservists, but also was responsible for the care of military sick and wounded personnel evacuated through the MoD medical echelons to civilian hospitals. Two-thirds of all Soviet MoD medical personnel during World War II were women, including many company-level aid personnel and surgeons. In addition, some 200,000 parttime civilian nurses worked in rear hospital, and this close wartime cooperation between civil and military medicine has continued to the present time. The first Soviet heart transplant operation, which was performed on a civilian female in 1968, was accomplished by a joint military-civilian team headed by military surgeons.

Counterintelligence Activities of the KGB

Although I have already discussed KGB troops, I did not address the all-pervasive quality of KGB counterintelligence and internal security -- an area in which the KGB wields an inordinate degree of influence and control over all other Soviet organizational elements, to include the MVD, MoD, civil police, firemen, all branches of industry, agriculture, transport, commerce, education, culture, social intercourse, and even the Party (that is, with the exception of a very small Party elite at the very pinnacle of power in whose behalf the KGB control is applied).

The security element of the KGB is a huge, widespread, semi-militarized organization with a system of ranks and grades. Its missions include the surveillance of foreigners in the Soviet Union and the detection of any anti-regime trends among Soviet citizens.

It also conducts clandestine intelligence and subversive operations, as well as propaganda and misinformation campaigns, designed to achieve Soviet objectives. Although much of this huge organization is devoted to combatting foreign intelligence, the overwhelming portion of it concentrates upon all phases of Soviet society in what appears to be, at times, a psychopathic intensity.

The KGB troops (which I described earlier), the security elements (which I am in the process of describing), and the positive intelligence elements (which I will not cover in this discussion) have a common staff in Moscow under General of the Army Andropov. Many of his deputies are identified in the press with military titles. For example, a general colonel is the First Deputy of the KGB, and another general colonel is the head of the Ukrainian KGB with two generals major as deputies. Two other generals major are the chiefs of the KGB in smaller republics, which suggests that this is the possible rank of the chiefs of the KGB in other small republics.

In anti-Soviet literature, the KGB is described as a "bloodthirsty octopus" whose tentacles reach out to "penetrate into all sectors of government, administration, the Armed Forces, and into every corner of the nation." Stalin called it "the punitive organ of the Soviet." Although post-Stalin policies have curbed the openly flagrant and brutal excesses of the KGB, the mechanism still remains. There continues to be a constant, although smaller, stream of arrests, trials, and imprisonments of prominent Soviet intellectuals, dissidents, and nationalists.

When Soviet troops invaded Czechoslovakia in 1968, several hundred Soviet plainclothes security agents allegedly arrived speaking the native languages and cooperating with the pro-Soviet elements of the Czechoslovakian security forces. The KGB is supposedly responsible for all counterintelligence and security measures and for the physical

security of many government and Party leaders and important installations. It maintains close surveillance over all industrial, agricultural, and commercial personnel and their activities. In effect, the KGB imposes a national censorship upon dissemination of the printed and spoken word.

In order to perform all of these various functions, the KGB has a number of Main Directorates and lesser supporting elements responsible for counterintelligence and internal security activities. The various main directorates have been reported over the years with slightly different names but, in essence, they are considered to still exist in much the same general forms and may be briefly identified as follows:

- The Directorate of Counterintelligence (KRU), which is responsible for countering foreign intelligence and, in addition, establishes and supervises general counterintelligence policies for other directorates.
- The Secret Political Directorate (SPU), which maintains surveillance over the bulk of the Party and government structure, all social and cultural organizations, and the general civil population.
- The Main Directorate of (Military) Counterintelligence (GUKR), whose function is to protect the Soviet Armed Forces against espionage, sabotage, and subversive activities from without, though more of its time is probably spent in the eradication of real or imagined anti-Soviet thought and behavior among military personnel. It is said that "the Soviet Armed Forces are placed under closer scrutiny than any other group", for agents and informers are to be found at every unit level.
- The Economic (Counterintelligence) Directorate (EKA), which presumably still maintains surveillance over all branches of industry, domestic and foreign trade, and agriculture with the ostensible mission of protecting these sectors against economic espionage, sabotage, and "wrecking" -- though some of its functions and personnel may have been absorbed by other directorates.
- The Road Transport Directorate (DTU), which maintains surveillance over all forms of transport operations, though it too may have been absorbed by other directorates.

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• The Guards Directorate, which provides physical security for Party and key government officers, as well as strategically important installations, in the form of uniformed armed guards and both overt and undercover security personnel down to the oblast level.

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• The Foreign (Intelligence) Directorate (INU), which conducts all phases of positive intelligence operations abroad, with the exception of military intelligence. Presumably, the INU or GUKR is privy to Defense military intelligence operations.

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Each of these foregoing Main Directorates maintains analogous elements at lower administrative levels throughout the country (e.g., at the republic, oblast, and probably other levels, where warranted). In addition, each large educational, social, and scientific institution has a Special Section which controls the guards, firemen, maintenance personnel, communication facilities, duplication facilities, personnel files, safes, and even the locks and keys of the institution. There is also a secret informant net throughout each plant or agency. For example, the steel industry and the Food Processing Industries Ministry will each have KGB agents from top to bottom; that is, from their Moscow headquarters, to their area headquarters, to the individual enterprise (be it a steel mill or a meat-packing plant). Each of the 20-odd railways has the equivalent of a KGB element -- as does also each river basin directorate, Aeroflot region, and maritime steamship company. In addition, KGB agents can be found at important rail stations, airports, and piers. In short, KGB coverage is established laterally throughout all elements of a particular activity in a given geographic area and vertically from top to bottom in a given industry.

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The KGB officers attached to a plant or to a military unit segregate themselves in order to discourage familiarity and to inspire some feelings of apprehension. These officers are not accountable to the commanding officer, to a supervisor, or to the political element of a unit -- and, in fact, report upon them as well. They have the right of access to all files, meetings, and areas of a unit or installation, and their reporting process is strictly one-way. Other officials learn only what is intended for them to know. In the military, KGB counterintelligence officers

apparently comment independently on both line and political officers, and no officer is promoted or selected for schooling without the approval of the KGB Special Section. KGB operational/counterintelligence elements have the right to assume control of local MVD or KGB troops, militia, firemen, and sometimes even Ground Force units in the event of a local disorder, disaster, or emergency. In the past, this prerogative has led to some very significant and prolonged operations, such as crushing large sectional insurgencies or conducting mass relocations of entire minority populations.

A system with so much power could not function without some "checks and balances" and, in spite of the high political reliability of KGB personnel from a Party viewpoint, individual reliability is not enough. So, in addition to the internal Party organization, the KGB probably has an internal political officer system. Furthermore, there is an unknown number of individuals within the organization who watch their own comrades. One writer has succinctly characterized the system as follows: "The secret police who spy on the secret police are most carefully selected the persons who watch the police who spy on the police are most deeply hidden." Thus, some of the most prominent victims of the KGB have been many of the highest ranking KGB officials themselves. Security Ministers Yezhov, Yagoda, and Beria were all executed, as were scores of other KGB general officers. Aside from the inhumanity of these KGB operations and the tremendous drain upon national resources, there is no doubt that this Soviet organization represents a first-class instrument of mass control and one that is extremely difficult to oppose.

Personnel of the various KGB counterintelligence units have (but do not always wear) a distinctive uniform; they are undoubtedly issued arms. Those KGB personnel who are assigned to troop units wear the unit uniform. The operational personnel of KGB are highly regarded Party members, and many of them are military veterans. The operational security elements of the KGB have a military rank system, but the personnel

are reputedly promoted faster, draw extra pay, and have other privileges not enjoyed even by KGB troop officers.

As many as 20 KGB generals (other than generals of the border troops) have been recently identified in Soviet open periodicals, and at least three of these KGB generals are generals colonel. The overall strength of the KGB security elements, though a closely-guarded secret, has been unofficially estimated by several analysts of the system to range from 5 million to "probably under a million." The uniformed "tip of this iceberg" consists of the KGB personnel at the national, republic, and lower administrative levels in identifiable KGB headquarters. Their numbers are unknown, but large, and a larger body of plainclothesmen operates around them. The parttime informant network which the KGB operates through coercion or other means has been estimated somewhat conservatively to include one out of every 10 Soviet citizens. There is a geographically-oriented KGB headquarters in every oblast -- which amounts to a total of approximately 110, plus 40 more oblast equivalents. In addition, the KGB apparently maintains fulltime representation at regional and city levels -- of which there are approximately 3,500 regional entities, not to mention the great numbers of government offices, institutions, enterprises, schools, and transport facilities with internal KGB Special Section personnel. Thus, although it is difficult to estimate the actual strength of these KGB security elements, the pervasiveness and quality of the KGB operational network is readily apparent.

SUMMARY

In summary, the numbers of personnel involved in the various military or military-related activities which I have identified and discussed probably run into the millions, although precise quantification is very difficult -- primarily due to the Soviet mania for security in anything

that impinges, however slightly, upon defense matters. The apparent lack of a driving interest in these areas of Soviet manpower has done nothing to improve our insight into the numbers and quality of this manpower which might certainly be enhanced if some priority were accorded to such research.

As I have indicated, the armed forces of the KGB and MVD total conservatively at least 430,000. Other unofficial estimates from knowledgeable sources tend to double this figure. It is well to bear in mind that these are uniformed troops with armor, artillery, light aircraft, and naval support. The number of personnel in the federalized civil militia and Fire Command may be as much as 1.5 million. Here again, these individuals have some small arms, some tactical functions, and are mainly ex-servicemen. Fulltime counterintelligence and security personnel of the KGB could easily total from one half to 1 million or more.

In the Soviet transport sector, the Soviets themselves indicate that more than seven million people are involved -- all of whom constitute a reservoir of trained, regimented, State employees. Soviet medical and telecommunications manpower may total another six or seven million.

Obviously, the entire mass of manpower resources which I have described will not necessarily be immediately diverted from their normal duties in the event of a major war. However, some of them would be, and great numbers of reservists in many other enterprises would undoubtedly be called into active military service in their specialties. The basic framework and functions exist and, as a result, these organizations are prepared to make the same or even greater contributions to Soviet military capabilities. Obviously, Soviet military requirements will take immediate priority -- unlike the tortuous negotiations and enabling legislation that is so often necessary in the West.

In my discussion, I have not addressed the huge parttime efforts involved in Soviet premilitary training programs, which are mandatory

for students, or the civil defense programs, which are mandatory for almost all citizens. Moreover, I have not addressed the vast resources of the Ministries of Defense Industry, Aviation Industry, Automobile Industry, Shipbuilding Industry, Transport Construction Industry, and a host of others wherein military and military-related hardware-building capabilities certainly exist. This discussion has been primarily concerned with organizations providing military or military-related services rather than hardware. I also did not discuss the interwoven, overlapping, nationwide complex of voluntary societies for cooperation with one or the other of the Soviet Armed Services, such as the Young Friends of the Militia. One of these, DOSAAF, allegedly has more than 80,000,000 members, while another, the Friends of the Police, has over 7,000,000 members. All of these organizations make some contribution to the Soviet military and to the overall militarization of Soviet society. Conversely, all of them represent a military-related burden on the Soviet economy. Hence, the level of their contributions to Soviet defense and internal security and their cost to the Soviet economy will continue to remain obscure until additional research efforts are applied to these areas. Only then will an accurate net assessment of U.S./U.S.S.R. military manpower, potentials, and costs be possible.

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APPENDIX E

**SOVIET DEMOGRAPHIC TRENDS AND POSSIBLE IMPLICATIONS
FOR SOVIET DEFENSE MANPOWER PLANNING**

SOVIET DEMOGRAPHIC TRENDS AND POSSIBLE IMPLICATIONS
FOR SOVIET DEFENSE MANPOWER PLANNING

by

Dr. Murray Feshbach¹

INTRODUCTION

Let me begin by saying that I am neither a military force structure planner nor a military specialist. I became involved in the military implications of Soviet demographic trends on the basis of some research which I performed ~~in~~ preparing a paper for the most recent compendium of papers on the Soviet Economy in a New Perspective for the Joint Economic Committee (JEC, Congress of the United States).²

The scope of work of my Branch (USSR/East Europe) of the Foreign Demographic Analysis Division in the Department of Commerce is much broader than simply demographic studies, as might be implied by the title of the Division. As a matter of fact, we conduct more studies in economics than we do in demographics. Our research in economics is focused primarily upon the development of input-output tables (both on the national and regional levels) and such subjects as research and development, science and technology, and finance. We are a small, but broad-ranging group, and one in which our disciplinary diversity is highly valuable. I believe that an interdisciplinary effort is the key to the analysis of broad, complex issues. In arriving at judgments and reaching decisions, all relevant knowledge should be evaluated and applied. An analysis which is limited solely to the demographic perspective of an issue, or solely to the economic perspective, or solely to the military perspective, flies in face of the fact that the clearest view of an issue emerges when these disciplines work in combination. The implications of the most broad and important issues extend into the

¹ As a special consultant to GE-TEMPO.

² Published by the Government Printing Office, October 14, 1976.

realm of political, military, and economic factors. Interdisciplinary analyses will produce the best results.

SOVIET DEMOGRAPHIC TRENDS

In my research, I have discovered that certain issues involving Soviet demography and manpower have important and far-reaching political, military and economic implications.

A Crisis in the 1980s

In the 1980s, in particular, demographic shifts and constraints are going to precipitate political, military, and economic pressures in the Soviet Union beyond any degree that the Soviets have thus far encountered. Until the present time, population and labor have been considered virtually free goods in the Soviet Union. The Soviet Government could obtain the number of people it desired at any time, in any place. This is no longer true and will definitely not be true in the 1980s. We know this not as the result of making projections or guesses, but as the result of studying the life tables of Soviet people who are already born. Only recently have the Soviets themselves realized the extent of the difficulties they will face in the 1980s. However, the Soviets are not alone in having ignored the population issue. Until very recently, most analyses of economic development considered demography only in a backhanded kind of way; for example, in terms of per capita estimates. But, this is changing.

Demographic Studies and Observations

The history of demographic studies in the Soviet Union is a rather curious one. In 1938, Soviet demographic studies were dealt a serious blow when Stalin decided to abolish the State's two demographic institutes.

One was in Leningrad and the other in Kiev; one of them had been in existence since pre-revolutionary times.

For a long time thereafter, the Soviets did not even discuss demographic issues, but, in the post-war period, initiatives by Valentey at Moscow State University and by other individuals heralded a renaissance in Soviet demographic research. As a consequence of this research, the Soviets have gradually become aware of the crisis they face in the 1980s -- not only in terms of aggregate manpower, but also in terms of its regional composition. This crisis has important implications with respect to the need for imported technology and to military issues.

By way of providing some background, I would like to begin by reviewing our demographic information on the Soviet Union and then turn to a consideration of the implications that such information is likely to have upon the Soviet military establishment. In particular, I would like to stress the balance of labor; that is, exactly where the working people are located geographically. Because the industrial plant resources and infrastructure are concentrated in Western Russia, the fact that the total growth of the Soviet population during the next decade will occur in Central Asia has a variety of serious implications.

Recently, Pravda announced that 258 million people reside inside the borders of the Soviet Union. According to our projections, this figure will rise by the end of this century to approximately 310 million, which represents a major slowdown in the aggregate Soviet growth rate from 2-2½% to much less than 1% (i.e., 0.6%). Part of this shift can be explained on the basis of the transition of the Soviet population from a primarily rural to a more urban life. In this context, it is interesting to compare the Soviet Union with the United States with respect to their urban/rural distribution of population. At the time of the 1920 census, the United States was already 50% urban and 50% rural -- according to our definition.

The Soviets did not reach this 50-50 proportion until 1961 -- according to their own definition. In fact, you may observe when you are traveling in the Soviet Union that there is a very sharp line at the edge of every city, town, or village -- there is no rural non-farm, no transition, no suburbia; it is immediately rural. Many Soviet people are still tied directly to the farms and to the peasant economy.

Soviet Demographic Catastrophies

If you step back and take a longer, historical look at Soviet demographic changes, you can gain some appreciation for the profound demographic catastrophes which the Soviets have suffered since 1917. Using data pertaining to the Soviet population in 1917, we can compare the current size of the Soviet population with that which normal growth rates would have produced. In 1917, there were 160 million people residing in the land area bounded by the Soviet Union's current borders. If we take an average figure of 2% per year as a growth rate, then, by 1975, the population of the Soviet Union would have totalled 494 million. Compare this with the proud announcement by the Soviet Government in August 1975 that there were 250 million people living in the U.S.S.R. In other words, the Soviet Union lost nearly 100% of its population due to the First World War, foreign interventions, the Civil War, famine, epidemics, collectivization, purges, and the Second World War. Of all of these, the Second World War was particularly significant. During this War, the United States had a total of 12.1 million persons in its Armed Forces. According to our estimates, the Soviets lost 15 million men in the War; that is three million more than were in our entire Armed Forces.

Due to World War II, women have become an important segment of the working force. They constitute 30% of the construction labor force, performing both construction and clerical duties. The use of women is prevalent throughout the entire economy. Between the 1959 and 1970

censuses, no major demographic catastrophes occurred in the Soviet Union, which has therefore permitted the calculation of growth rates. In using an 11-year interval between censuses, rather than 10 years, the Soviets did not help the cause of demographic analysis, but we manage to deal with this irregularity.

Growth Rates and Related Problems

By the end of the century, we expect that the Soviet growth rate will drop from its present rate of 1% (1966 to 1970) to around 0.6%. This decrease is not due to any campaign for "zero population growth," for they just don't have such a formal drive in the Soviet Union. Nonetheless, in European Russia, there is a tendency for families to have only one child -- or even none. In Central Asia, however, the traditional value of having 5 sons is still very strong, so they generally have as many children as is necessary to acquire five sons. This may mean a family of 8 or 9. In fact, between 1959 and 1970, the average size of the family in Central Asia, including even those in the cities, has grown rather than declined, despite all efforts by the Soviets to restrain this growth through investment, housing, and social welfare programs.

Another important issue is the aging of the Soviet population and the demographic pattern of "over-age" people in the U.S.S.R. The official Soviet definition of "able-bodied ages" places males between the ages of 16 and 59 and females between the ages of 16 and 54 in the able-bodied age group. Thus, the over-age group includes males who are 60 years and older and females who are 55 years and older. There are some indications that the Soviets may change this definition so as to add five more years of "quasi-working age." The Soviet labor situation is really very desperate. With respect to the Soviet Union as a whole, over-age people represented 10% of the aggregate population in 1950, but will increase to approximately 20% by the year 2000. However, in the five Soviet republics of Central Asia (i.e., the four Asian republics of Uzbekistan,

(Turkmenia, Kirgiziya, and Tadzhikistan, plus Kazakhstan) the situation will be very different. There, the over-age group will decline. Whereas in 1950 over-age people constituted 10% of the population, the percentage will drop by the year 2000 to approximately 9% -- rather than doubling.

Obviously, as I previously indicated, these projections have a wide variety of implications in terms of manpower utilization, industrial location, social facilities, and many other socio-economic problems.

It takes a long time for populations to recover from severe demographic shocks. The Second World War seriously skewed the ratio of males to females in the Soviet Union. In 1970, the ratio was still in the 80-90 percent range, and it will not be balanced until after the year 2000 when there should be approximately 104 females to 100 males.

Nationality and Language Groups

Of particular importance with respect to Soviet demography is the fact that the country spans 12 time zones -- not merely 4, as is the case in our country. Ruling this broad expanse of territory by means of an authoritarian central government raises the probability of regional problems -- specifically ethnic and nationality problems. Within the Soviet Union, there are between 100 and 140 different nationality groups and language groups -- depending on one's definition. Of these many groups, the five principal nationality groups of Central Asia are very important in the context of their growth in population. Although the growth rate for the country as a whole was 12 to 15% in the period 1959-1970, the rate in Central Asia was approximately 40%. This raises a problem with respect to the declining proportion of Great Russians in the total population of the Soviet Union. The question is:

When will the Great Russians -- the ethnic group which currently dominates Soviet society -- comprise less than a majority of the population?

According to the most recent census (which is the last published data that we have), 53.4% of the population were Great Russians in 1970, whereas it was 54.6% in 1959. Some analysts think that the Great Russians

already constitute less than 50%. While their view may be entirely correct, I do not believe that the 1979 census is likely to corroborate this change and, in fact, we may well observe that the Great Russians are increasing rather than decreasing. The Soviet Central Statistical Administration could do this in two ways; namely, it could

- Change the question concerning language ability from "freely commanded" to "ability to use", which is a very different definition; and
- Parallel what the Yugoslavs did in their last census -- which would be to proclaim that everyone is of Soviet nationality, instead of the variety of more narrow, ethnic backgrounds.

Both of these census adjustments are means of "adjusting" the data so that the Soviets can counter accusations that the Great Russians are colonialists and imperialists controlling 90% of the Governmental staff while constituting less than 50% of the population.

Mortality Rates

If I may return now to the issue of the aging of the Soviet population, one of the important points to consider in this context is the question of the Soviet mortality rate. During the past 2 years, we have observed something which appears to be extremely strange; that is, the aggregate death rate has increased by 0.6/1000 -- from 8.7 to 9.3, which is an astonishing increase in only one year. We currently have no idea what the explanation for this increase might be. This shift not only affects the older ages, but also it increases pressures with regard to the supply of defense manpower. Since 1971, we have also observed an incredible increase in infant mortality, for which I again do not know the explanation. However, I may well write an article on the subject entitled "Watergate East: Why This Cover-Up?" According to 1971 data, there were 22.9/1000 deaths among Soviet children during their first year of life. This figure has increased inexorably, year by year. When this trend was first discovered, analysts attempted to explain it by stating that it was simply a matter of poor reporting in Central Asia. But, that argument doesn't appear to be valid because even the Latvian and Lithuanian data reflect this trend.

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Curiously enough, four major sources of Soviet demographic information have failed to update these data in either recent reports/yearbooks or in two basic reports to the United Nations in which they have always reported such data. In my opinion, the infant mortality rate now exceeds 30/1000, which represents an increase of more than 25% in 5 years, and we do not really have an explanation for this increase. However, I do think that both this high infant mortality rate and the rising aggregate death rate may be traced to two factors; namely,

• Regardless of all the propaganda, the public health service in the Soviet Union is poor, which I have learned from emigres who spoke of the treatment that they received in the Soviet Union, and

• Alcoholism appears to be rampant among women, as well as among men.

The age-specific mortality of men in the Soviet Union is incredibly high, and this is a second "cover-up." Since publishing facts on average life expectancy in 1971-72, the Soviets have not released any life expectancy data for subsequent years -- even in the brand new yearbook. I believe that the average life expectancy for men has declined from age 64. This decline would widen the already incredible gap between the life expectancies for men and women. In 1971-72, Soviet men could expect an average life of 64 years, but for women it was 74 years. This gap is the largest in any civilized country. In searching throughout the entire world demographic yearbook, the only country which I found that has a wider gap than this is Gabon, which is not reputed to have a highly articulated statistical system.

Birth Rates

The birth rate continues to decline in all of the Soviet republics, but the Central Asian rate is declining much more slowly. As I have said previously, the average size of the Soviet family is continuing to decline. According to the last survey from which we have information (1967),

95% of the families in European Russia had two children or less. In Central Asia, 20% had 1, 20% had 2, 20% had 3, 20% had 4, and 20% had 5 or more. So, you don't reach 95% until you have 8 or 9 children. Obviously, this trend has implications with respect to a possible labor surplus on Central Asian farms. The big question is whether or not this surplus labor will migrate from Central Asia. I have been asked to write a paper on the prospects for a massive out-migration from Central Asia during the next decade. However, even now, it's quite clear to me that these surplus farm workers in Central Asia will not move out of their home area in massive numbers. Some may move, but there will not be a mass migration which, in turn, will definitely lead to an economic slow-down and will therefore necessitate more industrial investment in this area. Of course, if, as it now appears, the labor supply just will not voluntarily move to Western Russia where the jobs are, the government could use guns to forcibly move these people -- but this introduces a whole new set of problems.

OBSERVATIONS AND IMPLICATIONS

As a consequence of all the foregoing changes (e.g., the aging of the population, the decrease in the birth rate, and the Central Asian differential), the picture which is summarized in Table E-1 begins to emerge. This table reflects the average annual increments of able-bodied ages in the population by planned period from 1959 to 2000. The average annual increment shifts from year to year because the number of people in the able-bodied ages constantly changes. People are exiting from the group as they reach pension ages or die, while other people are entering the group upon reaching their sixteenth birthday or upon completion of their studies. In this context, more and more young people are postponing the date when they enter the labor force by pursuing higher educational degrees.

TABLE E-1

ESTIMATED INCREMENTS TO THE POPULATION IN THE ABLE-BODIED AGES
IN THE U.S.S.R., CENTRAL ASIA AND KAZAKHSTAN,
AND THE TRANSCAUCAZUS, BY PLAN PERIOD: 1959 TO 2000

(Based on data as of January 1, in thousands)

Plan period	U.S.S.R.		Central Asia and Kazakhstan		Transcaucasus	
	Total increase	Average annual increase	Total increase	As a percent of national increase	Total increase	As a percent of national increase
1959-65...	5,173	739	(NA)	(X)	(NA)	(X)
1966-70...	7,808	1,562	(NA)	(X)	(NA)	(X)
1971-75...	12,727	2,545	3,085	24.2	1,075	8.4
1976-80...	10,408	2,082	3,495	33.6	1,148	11.0
1981-85...	2,687	537	2,823	105.1	701	26.1
1986-90...	2,830	566	2,938	103.8	531	18.8
1991-95...	4,020	804	3,565	88.7	628	15.6
1996-2000.	9,013	1,802	4,999	55.5	1,082	12.0

NA Not available.

X Not applicable.

Source and methodology: Estimates of the Foreign Demographic Analysis Division, March 1974. The projections for the years 1973-2000 were based on the assumptions that fertility will remain constant at the estimated 1972 level, that mortality will decline by an amount equivalent to an increase in life expectancy at birth of approximately 2.5 years, and that net migration will be insignificant.

In 1959, the able-bodied age group numbered approximately 120 million; this figure is important as a base. The annual additions to this base group are shown in the column of Table E-1 which is labelled Annual Average Increments. As you may remember, the Soviets were extremely worried about the size of their labor force in 1961 so, in that year, they drafted two cohorts to compensate for the shortage of nineteen-year-old draftees entering the military service. Despite the fact that the laws, at that time, called for the drafting of 19-year-olds, the Soviets also drafted their 18-year-old cohort. The average annual increment during the period 1959-65 was approximately 740,000. This increment doubled in the late 1960s and expanded to 2,500,000 in 1971-75, but declined a bit in the late 1970s. In the 1980s, however, this increment will decline sharply to approximately 540,000 (in the period 1981-85) and 570,000 (in the period 1986-90). These levels are even lower than in 1961. In addition, however, the annual increments of the 1980s will have a regional component which makes the situation even worse. The share of the increments from the Central Asian republics and Kazakhstan can be observed in columns three and four of Table 1. In the 1971-75 period, the Central Asians comprised approximately one-quarter of the increment, but this will expand to one-third in the late 1970s. In the 1980s, however, they will constitute the total increment; i.e., 105% from 1981-85 and 104% from 1986-90. The three Transcaucasus republics could also be included in this total and, being a positive increment, they would further expand the dominance of minority groups in these increments. Throughout the rest of the Soviet Union, there will be a net decrease in the able-bodied age group. This situation, of course, has serious implications with respect to economic investment. The Soviets will have to face and resolve the following questions:

- Where are we going to obtain the people that we need for our labor force?
- How are we going to move the people that we need in our labor force around to where they are needed? and
- What kind of administrative policies must we establish to ensure that the labor force will be where we need it?

Obviously, such a situation will intensify pressures to ensure greater labor productivity and capital productivity gains, and this is exactly what the Soviets are striving for in the current Five-Year Plan. Furthermore, they realize that, if they don't succeed now, they are going to be confronted with this precipitous decline in available manpower and with the enormous difficulties involved in bringing the Central Asians into the industrial, urban labor force. But, despite their efforts, it would appear that the Soviets are not going to be able to solve this problem anyway because:

- Their labor productivity gains over the last year are less than what the Plan called for;
- They need to allocate capital to buy agricultural goods; and
- They are trying to import technology in order to raise productivity, but they will have to raise productivity about three times in order to have any chance of success.

The figures which I have cited with respect to the increments of able-bodied ages entering the labor force are very important because these increments are practically the sole sources of additional labor. The Soviets have simply exhausted all other internal labor sources; for example:

- The peasants have been absorbed to the maximum level;
- The pensioners were brought back to work as a result of a change in the pension law in 1966; and
- The household has been absorbed as a source of labor.

Therefore, these new increments are all that there is available to the Soviets. Although these increments accounted for only one-third of the new labor force coming into the State sector during the period 1961-65, they constituted about 60% in 1966-70, 92.3% in 1971-75, and today just slightly less than 100%. Therefore, the future of the Soviet Union itself would appear to revolve around the increase in the able-bodied age group.

In 1976, the Soviets made an institutional change which indicated that they are aware of this situation. The fact that this change took place in 1976 is curious, because changes in the labor areas nearly always seem to occur during years which end with 6. Looking back to 1931, the

Soviets abolished the Ministry of Labor, so that between 1931 and 1956, no agency of the Soviet Government seriously dealt with labor at the national level -- though there was a very minor organization. But, in 1956, they organized a State Committee on Labor and Wage Problems which dealt primarily with the setting of norms and wages. Then, in 1966, the Soviets issued a decree pertaining to State Committees on Labor Resources Utilization. Most of the organizational network required to implement the decree was established in 1967. Then, in August of 1976, they abolished the foregoing organizations and established a new State Committee on Labor and Social Problems. Here, the question is one involving the definition of the word "Social" which, it seems to me, we must deal with for a variety of reasons. The Director of this new State Committee is the former Second Secretary of the Communist Party from Uzbekistan, but he is a Great Russian and has been brought back as the head of this organization. Certainly, he must be aware of the implications of the foregoing data.

MILITARY IMPLICATIONS

Turning now to the military implications of the foregoing discussion, there was a tremendous brouhaha in town concerning the size of the Soviet military forces in the Spring of 1976 when I was preparing my paper for the Joint Economic Committee.³ General Graham, then Director of the Defense Intelligence Agency (DIA), testified before Senator Proxmire that the Soviet Armed Forces totalled some 4.5 to 5 million men/women, but that he really believed that the figure was larger. Mr. William Colby, Director of the Central Intelligence Agency (CIA), also testified that the figure was about 4.5 million. But, low and behold, the International Institute for Strategic Studies (IISS) in London published a figure of only 4.005 million. Subsequently, a study by the Library of Congress reflected a figure of 4.8 million, which was generally accepted community-wide.⁴ So, my problem was how to balance these figures -- which should I use? If there really were 800,000 more men in

³ *Ibid.*

⁴ United States/Soviet Military Balance: A Frame of Reference for Congress, a study by John M. Collins and John Steven Chwat, January 21, 1976.

uniform than open sources indicated, where should I add this 800,000 -- not only in terms of the 1975 figures, but also for all the years before that? I couldn't just add 800,000 to my numbers (and I have only used unclassified sources). In attempting to find a way out of this quandary, I asked myself the question of whether or not it would be possible that there was an alternate explanation for this difference -- aside from people just not being counted. With all due respect to Jim Reitz's earlier comments, I formulated the hypothesis that uniformed civilians constituted the basic cause of the problem and, in order to resolve the issue, I had to produce evidence that these uniformed civilians were being counted in the civilian labor force. This I think that I can do for at least three out of five categories.

First, with respect to the construction troops, I can cite Soviet and emigré sources which indicate that these personnel are:

- Treated differently; and
- Paid wages comparable to civilian construction personnel (not 3 to 5 rubles a month like an ordinary draftee, but 50 to 60 rubles a month and higher).

Second, with respect to medical personnel, it is clear that the Soviets didn't include this manpower in the Armed Forces data which they published in January 1959. In 1959, the Soviets announced that their Armed Forces numbered 3,623,000 personnel, of which 632 were women -- not 632,000, but 632! That's utterly impossible, unless you are not including military medical services. As Jim Reitz pointed out, two-thirds of the combat doctors in the Second World War were female, and eighty-five percent of the Soviet medical service personnel is now female. I have asked a number of emigrés whether or not they have ever heard the Russian term which is equivalent to a male nurse (or our medical aid personnel), and they had not because there just weren't any male nurses. Nurse is a female term, and the male nurse equivalent is never used. Furthermore, in reviewing Soviet budget data, I found a citation by Abraham Becker concerning a transfer from the Ministry of Defense (MoD) budget to the Ministry of Public Health budget in 1961-62. Abe believes that the funds came from the military program. And,

Finally, with respect to the dining hall, post exchanges, and like activities, I can absolutely prove that the balance sheet for the military trade system is included in the total, published retail trade figure for trade turn-over. I know this to be true for other reasons and through other sources.

So, there are the three out of five categories of so-called uniformed civilians.

Above all, I wanted to avoid double counting with respect to the total number of Soviet military personnel, so my research indicated that I could use the 4 million figure that the IISS published and still be confident that the other 800,000 personnel would be included in my figures for construction, medical, and other service personnel. As a parallel observation, it would appear to me that if there were an MBFR Agreement and a reduction in forces resulted therefrom, eliminating these 800,000 Soviet personnel would not mean a thing. However, I went a bit deeper into the situation because I also needed to analyze the competition between the military and civilian sectors for manpower in the 1980s in particular. For this purpose, I developed what I called a hypothetical model. Because of the differences with regard to the actual strength of the Soviet Armed Forces, I had the problem of deciding which figure I should use. I selected the figure of 4.5 million in order to give the Soviets the benefit of the doubt. If the figure is actually 4.8 or 5.2 million, the Soviets' situation is much worse than how I am going to describe it. My next question was: What are the numbers of Soviet officers and cadres, non-commissioned officers (NCOs), conscripts, and non-conscripts? I used John Erickson's figure of 20% for the officer corps and, from another source which cited approximately 3 to 5% for NCOs, I used the larger figure of 5%. Hence, the total for officers, NCOs, and extended service personnel came to 25%. Therefore, the Soviets must draft 75% of the manpower for their Armed Forces each year. Of course, I was then confronted with a question as to the average length of service of a Soviet conscript. I decided that the average length of service must be about two years. It has to be at least that, though it could be slightly longer. Since 1967, all of the major service components of the Soviet Armed Forces except the Navy (in which individuals serve for three years) serve two years, but graduates of higher educational institutions serve only one year.⁵ Taking these two together, I figured that I could not be far off in using a figure of two for the average length of service. Therefore, in performing a bit of arithmetic involving the foregoing figures, it turns out that the Soviets need to draft 1,688,000 18-year-olds each year.

⁵ Editorial Note: Subsequently, during March 1977, the length of service of graduates of higher educational institutions was increased to two years, in the case of the Navy, and eighteen months in the other services.

The 1975 figure for the size of the Soviet 18-year-old male cohort is estimated to be 2,500,000. By 1987, it is anticipated that this cohort will reach a low of 2,012,000, but will then climb up to about 2,200,000 by the year 1990. Now, the first thing that must be done with respect to these figures is to eliminate the individuals pursuing a full-time education. According to my estimates, that figure comes to about 400,000 to 450,000 for this period of time. Life expectancy tables indicate that 4,000 per year will die from various causes. Another 10% is lost due to deferments, exemptions, and similar circumstances -- some of whom will return two years later for conscription. The Soviet manpower situation is further exacerbated by regional problems. For example, by the end of this century, our estimates indicate that fully one-third of the 18-year-old cohort will come from the southern, less Russian-speaking and less mobile sectors. These are the less industrialized, less urbanized, and less technologically oriented areas. Looking at the Soviet manpower situation from this viewpoint and excluding any questions of force structure or firepower, it seems to me that the Soviets really have some definite problems, and this is the basic thrust of my discussion -- approaching the Soviet manpower issue from a demographic-economic standpoint, as opposed to simply examining the issue from a military point of view.

Finally, it seems to me we do not know enough about Russian language training in the Soviet military establishment. I have looked through a variety of materials, and there are cases cited of sergeants who are the intermediaries between the Russian-speaking officers, who give the commands, and the non-Russian speaking soldiers. What are they going to do about this situation? There is a big drive to create a sense of inter-nationalism -- making everybody Soviet and making everybody learn Russian -- but it has been very unsuccessful thus far, and the 1980s are not that far away.

APPENDIX F

**A TECHNIQUE FOR ASSESSING
SELECTED ELEMENTS OF SOVIET MILITARY MANPOWER**

A TECHNIQUE FOR ASSESSING
SELECTED ELEMENTS OF SOVIET MILITARY MANPOWER
by
Ms. Harriet Fast Scott

INTRODUCTION

I will explain very briefly the technique that we are using to estimate Soviet military manpower in sectors not directly within the Ministry of Defense (MoD). This technique might be identified as the "iceberg" approach inasmuch as it is based upon the assumption that, by identifying the general officers and other senior officers at the top of a military organization (i.e., "the tip of the iceberg"), one can project the organization beneath them and estimate its size. This was the approach which we used in estimating the Soviet manpower involved in civil defense.

CIVIL DEFENSE

According to the Red Star of January 21, 1977 (which printed an attack upon Leon Gouré and myself for writing about Soviet civil defense), the protection of Soviet citizens from natural disasters and of Soviet cities from enemy attacks is an innocent, humanitarian measure which could do no harm. This statement is reminiscent of Premier Kosygin's comment some ten years ago concerning anti-ballistic missile (ABM) systems -- he said that he could not see how such an innocent thing as protecting Soviet cities with ABMs could threaten the United States. Eventually, however, it became clear that ABMs did pose a threat to the balance of power between the two superpowers, which is a point that should not be forgotten.

As Jim Reitz pointed out earlier, General Altunin, who is the Chief of Civil Defense at the peak of this "iceberg", is also a Deputy Minister

of Defense. Below him, we have thus far identified 47 general officers working fulltime in civil defense. Of these, more than 40 currently appear to be on active duty. However, in estimating the total number of Soviet general officer positions in the civil defense "iceberg", it would appear that:

- At the Ministry of Defense level (in the office and on the staff of the Chief of Civil Defense) there are . . . 12
- At the level of military staffs for civil defense:
 - The number of Chiefs of Staff for Civil Defense within the 15 republics of the Soviet Union is 15
 - The Deputy Chiefs of Staff for political matters in the offices of the Chiefs of Staff in the 15 republics also number 15
 - The Officer-in-Charge of Civil Defense in the Moscow Oblast and the Senior Civil Defense Officer for the city of Moscow account for 2
- At the level of Troops of Civil Defense:
 - The number of Deputy Commanders for Civil Defense within the headquarters of the 16 military districts of the Soviet Union is 16¹
 - There is also the Commandant of the Civil Defense School 1

TOTAL 61

Therefore, although the absolute minimum of Soviet general officers assigned to civil defense is estimated to be 61, a more realistic estimate of the number of Soviet general officers assigned to civil defense duties may well be in the order of 80-120.

¹ These positions were apparently established in 1972 when General Altunin became the new Chief of Soviet Civil Defense. To date, six general officers have been identified by name in these positions. It simply takes time to identify all of the Soviet general officers who occupy these and other civil defense positions in Soviet periodicals.

Turning now to other Soviet officers in civil defense and referring to the overall structure of Soviet civil defense in Figure 1, we have identified a sufficiently large number of colonels at the oblast level (i.e., equivalent to a U.S. county) to assume with some degree of confidence that at least one colonel is assigned to each of the 162 Soviet oblasts, to include autonomous republics, national okrugs and krays. Furthermore, officers are to be found in civil defense activities in each of the 240 Soviet cities with populations exceeding 100,000 persons (many of which are further divided into regions) and in some smaller cities which appear to warrant a civil defense staff. In all, then, the total number of Soviet officers, other than general officers, involved in civil defense may be estimated as follows:

- Administrative units within the Soviet Union which appear to have Chiefs of Staff for Civil Defense in the grade of colonel are:

-- Autonomous republics	20
-- National okrugs	10
-- Krays	6
-- Oblasts	126
-- Cities over 100,000	240

Total Number of Colonels . . 402

- Administrative units within the Soviet Union which appear to have Chiefs of Staff for Civil Defense in the grade of lieutenant colonel, although some positions might be filled by majors, are:

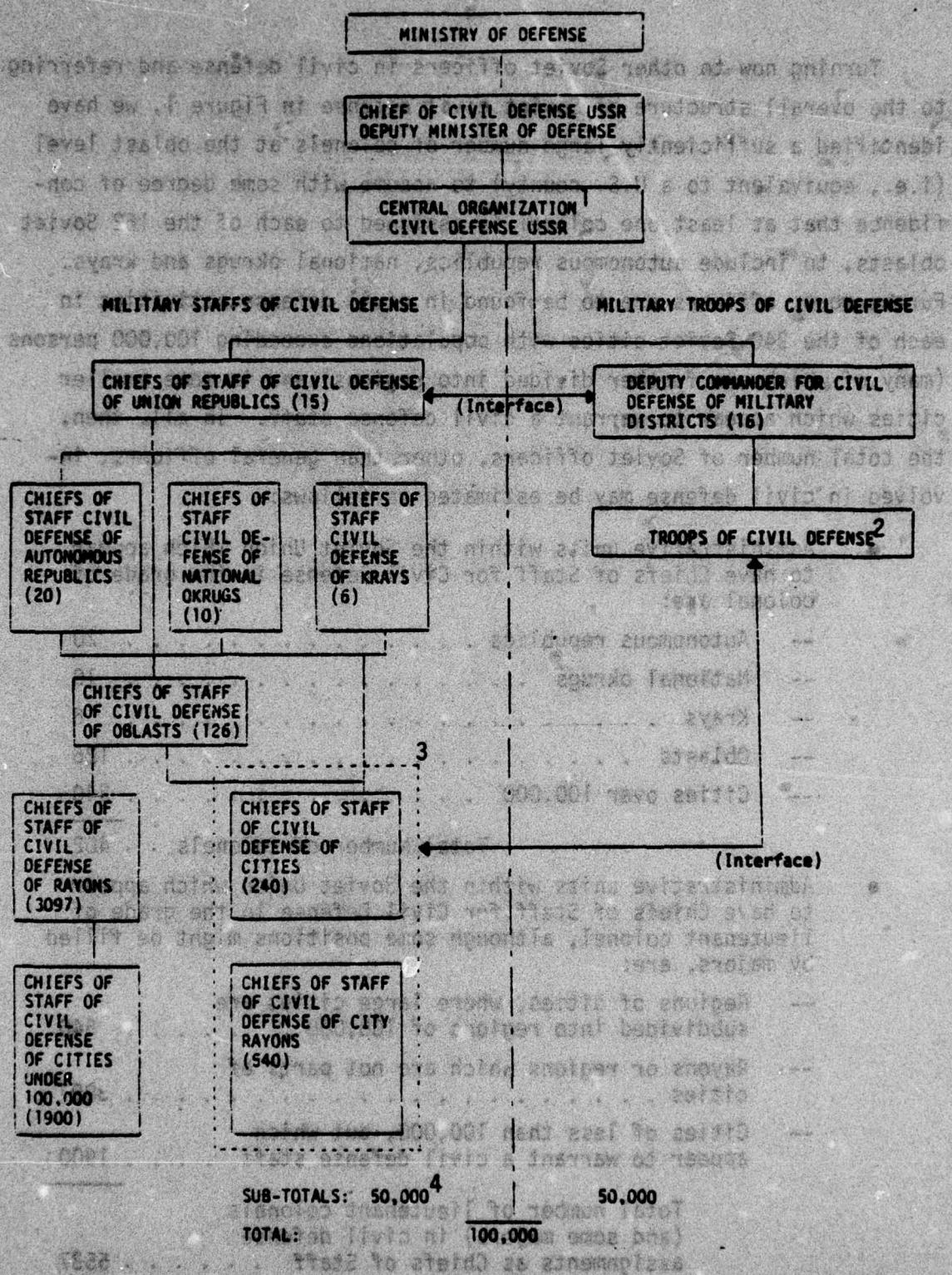
-- Regions of cities, where large cities are subdivided into regions of 100,000	540
-- Rayons or regions which are not parts of cities	3097
-- Cities of less than 100,000, but which appear to warrant a civil defense staff	1900

Total number of lieutenant colonels (and some majors) in civil defense assignments as Chiefs of Staff 5537

- Each Chief of Staff for Civil Defense has a staff which may well include an officer for each of 13 civil defense services. Of course, in some areas, several of these services might be performed by one officer. However,

Figure F-1

THE OVERALL STRUCTURE OF SOVIET CIVIL DEFENSE



it would be reasonable to estimate 8-10 military officers assigned to the civil defense staffs of each of some 5,000 krays, oblasts, cities and rayons which would indicate a total of approximately 45,000

In summary, then, utilizing the "iceberg" technique and rounding the sum of the foregoing figures, the total number of Soviet officers involved in Soviet civil defense activities is estimated to be in the order of 50,000.

As for the Troops of Civil Defense, there is probably a detachment or larger unit in each major city (over 100,000) -- of which there are 240. A detachment or larger unit of an average size of 200 men for each city would therefore equal nearly 50,000 Troops of Civil Defense. These units consist of soldiers trained in fire-fighting, rescue work, and the detection and marking of contaminated areas.

So, overall, it would appear that there are some 100,000 military personnel involved in the Soviet civil defense system -- 50,000 of which are Troops of Civil Defense and the other 50,000 of which are military personnel on the staffs of the hierarchical structure previously shown in Figure 1.

Once again, it should be emphasized that the major buildup of Soviet Civil Defense began after 1972. The names of relatively few individuals assigned to civil defense were to be found in the Soviet military and para-military press prior to that date. It was not until 1973 that the yearbook of the Soviet Bolshaya Entsiklopediya first referred to the Troops of Civil Defense in its description of the Soviet Armed Forces as being one of the major components of the Soviet Armed Forces. Even without the foregoing estimates, it would appear likely that the Troops and Staffs of Civil Defense do number in the order of 100,000, simply due to the fact that they are identified in the Bolshaya Entsiklopediya yearbook as a major component of the Soviet Armed Forces and that their Chief is a Deputy Minister of Defense.

THE SOVIET ALL UNION VOLUNTARY SOCIETY FOR COOPERATION
WITH THE ARMY, AIR FORCES, AND NAVY (DOSAAF)

On January 25, 1977, DOSAAF convened its Eighth Congress. These congresses are held every five years, and the current one celebrated DOSAAF's golden jubilee. Each congress reflects a milestone in the progress and expansion of this paramilitary organization in terms of new responsibilities and increased membership. Marshal Pokryshkin announced the current membership to be 329,000 primary organizations with a total of 80,000,000 members. For those of you who may not be familiar with DOSAAF, the Society is a quasi-governmental organization whose charter states that it is to render "active assistance in strengthening the country's defense capabilities and the training of workers for the defense of the Socialist Fatherland." This DOSAAF does by providing general pre-induction and civil defense training, military specialist training, military-technical sports training, and military-patriotic indoctrination in a wide spectrum of activities.

Generally speaking, DOSAAF could be compared with the aggregation of all sports clubs in the U.S. -- though in the Soviet Union, these clubs are directed by military officers. If one wishes to become any kind of a sports specialist in the Soviet Union from scuba diving to parachuting to what-have-you, the facilities of DOSAAF provide the opportunities, and one can join at the age of 14.

As previously indicated, DOSAAF's responsibilities were expanded in the late 1960s when military service in the Soviet Armed Forces was reduced from three to two years. In effect, what the Soviets have tried to do is to place the responsibility for the initial year of military training on the civilian economy (e.g., DOSAAF) and not on the military budget. In this context, DOSAAF has primary responsibility for both

pre-military and specialist training. In fact, every third individual who is called up for military service has acquired a military specialty useful to the military through the facilities of DOSAAF.

As many as four hundred new buildings have been built during the past five years to accommodate the training facilities of DOSAAF. A Marshal of Aviation heads DOSAAF, and each of the 15 republics has a general officer in charge of its DOSAAF committee. To date, some 28 general officers have been identified with the DOSAAF system. We are now in the process of trying to estimate the number of DOSAAF clubs and schools and the total military manpower involved with all of the DOSAAF activities. We know of one case in which a senior lieutenant, who was apparently a reserve officer on active duty, headed a DOSAAF school for 23 years with a staff of experienced officers assisting him with training.

COMMISSARIATS

Although the overall operation of the military commissariat system is exercised by the Chief of the General Staff for the Minister of Defense, specific control is believed to be vested in an Organizational and Mobilization Directorate of the General Staff, headed by General Colonel Volkov. Although this Directorate is very rarely referred to in open sources, it is thought to be responsible for the:

- Overall control of military manpower,
- Mobilization planning, which includes the determination of resources needed for mobilization and supervision of the stocking of mobilization supplies,
- Supervision and coordination of the activation of civilian and military mobilization organizations,
- Table of Organization and Equipment (TOE) development requirements, and
- Other related matters.

The next level in the Soviet military administrative command is that of the military district.² The staff of each one of the military districts, of which there are 16 within the U.S.S.R., is believed to have a comparable Organization and Mobilization Directorate. Just as the Chief of the General Staff as one of several First Deputy Ministers of Defense exercises certain administrative and operational control over the 16 District Commanders for the Minister of Defense, so the Organization and Mobilization Directorate of the General Staff is considered to exercise overall technical direction and control of the Organization and Mobilization Directorate of each District staff. In turn, these District Organization and Mobilization Directorates are believed to exercise supervisory control over the mobilization activities of subordinate military commissariats from the republic to the regional level.

As indicated in Figure 2, the current structure of the military commissariats is of a pyramidal (or "iceberg") configuration, beginning with republic commissariats at the level of most of the 16 union republics which constitute the major administrative and national organizational elements of the Union of Soviet Socialist Republics.³

In addition to the basic responsibility for operation of the conscription system, the military commissariats perform a number of other

² Gornyy, A.G. Fundamentals of Legal Knowledge, Voyenizdat, Moscow, 1973, p. 90.

³ Pobezhimov, K.F., Fundamentals of Soviet Military Legislation, Voyenizdat, Moscow, 1962, p. 69. In addition, the Bolshaya Soviet Encyclopedia, 3rd edition, Volume 5, p. 247 states that the military commissariats are military establishments of the Ministry of Defense (MoD) and, at the same time, have the rights of a department of the corresponding councils of ministers of union and autonomous republics and executive committees of krays, oblasts, cities, and rayons.

Table F-1. A RECAPITULATION OF THE ESTIMATED MANPOWER INVOLVED IN THE SOVIET MILITARY COMMISSARIAT SYSTEM

Organizational Level	Estimated Numbers of:		Calculated Totals			
	Military Commissariats	Officers per Commissariat	Supporting Personnel per Commissariat	Officers	Supporting Personnel	Total
Republic	13	38-45	187-203	494-585	2431-2639	2925-3224
Autonomous Republic, National District, Kray, Oblast, and Autonomous Oblast	164	25-30	125-136	4100-4920	20,500-22,140	24,600-27,060
City and Region	4225	4	12	16,900	50,700	67,600
				TOTALS:	73,631 - 75,579	95,125 - 97,984
				ROUNDED AVERAGE:	74,600	96,550

major functions.⁴ The following translation from the Soviet Fundamentals of Legal Knowledge⁵ provides a detailed account of these functions:

Military commissariats are given the following fundamental tasks:

- Registration of inductees and military obligated;
- Conducting regular call-ups for active military service and call-ups for mobilization;
- Registration of material means subject to delivery to the Armed Forces during mobilization;
- Designating pensions for officers, "praporshchiki and michman" (warrant officer equivalents) and their families, and also the families of generals and admirals -- this authority has been given to oblast, kray, and some city military commissariats by special orders;
- Cooperating in job placement and assuring living space for officers released from the Soviet Army and Navy;
- Selection and direction of candidates to military schools, to practice assemblies, and to courses of preparation for reserve officers, as well as "praporshchiki and michman" to military units; and
- Examining and resolving the complaints and declarations of inductees, military obligated, servicemen, invalid veterans, members of their families, and also members of the families of deceased soldiers.

Together with DOSAAF (voluntary, premilitary training) organizations, the military commissariats perform a great volume of varied activities with respect to the preparation of Soviet youth for military service and the military-patriotic education of Soviet citizens.

⁴ The official Soviet definition of military commissariat in the Dictionary of Basic Military Terms (U.S.A.F. translation) is as follows: 317 VOYENNYY KOMISSARIAT (military commissariat) -- The local military administration office in towns, rayons, oblasts and autonomous republics, that maintains a register of persons subject to compulsory military service, appoints them as draftees to the Army or Navy initially, assembles them periodically for training or muster, and calls them up in the event of mobilization.

⁵ Fundamentals of Legal Knowledge, Voenizdat, Moscow, 1973, p. 90.

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Soviet Commissariat Manpower

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Information with regard to the manpower actually involved in the hierarchy of the military commissariat system, like many other aspects of Soviet military manpower and, indeed, like most major Soviet military activities, is not as available in open, unclassified sources as that pertaining to the U.S. Armed Forces generally is. However, a reasonably detailed examination of publications of the Soviet open military and civil press does provide some information which, if it is properly correlated and analyzed, will provide some insight into the manning of this system.

Presently, we have identified some 33 general officers in the Soviet military commissariat system. Eleven republics have one-star generals serving in the position of military commissar, and 20 generals and 9 colonels have been identified at the oblast level. Many more generals and other high-ranking officers are assigned at the city level. As a result of our studies of historical records (for military commissariats are at least 100 years old) and our calculations involving the "iceberg" technique, we have developed an estimate of the total officer and supporting personnel involved in the Soviet military commissariat system. A recapitulation of this detailed estimate is presented in Table 1.

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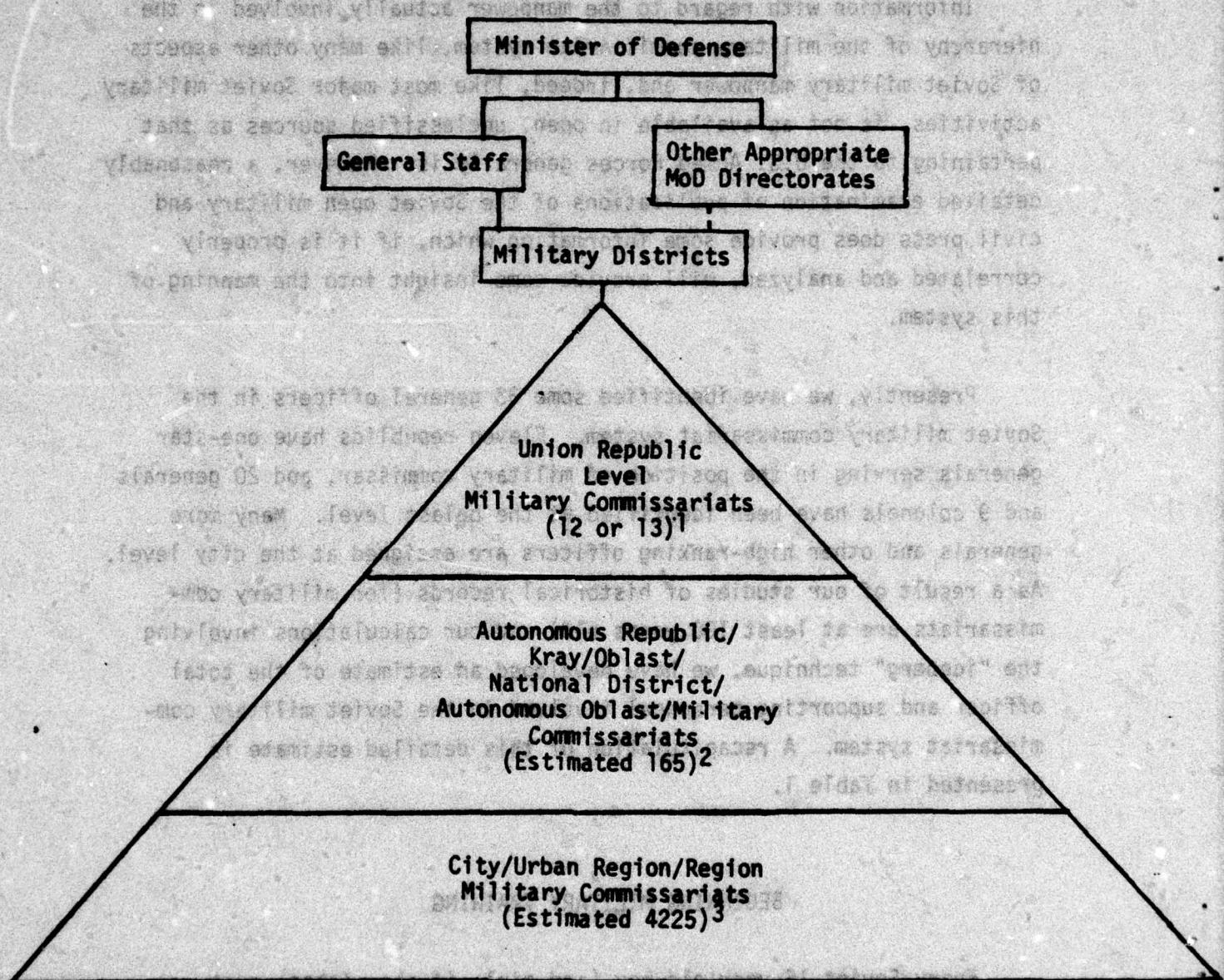
BEGINNING MILITARY TRAINING

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Every Soviet 15-year-old boy (and girl, if she wishes) must participate in a 140-hour course of beginning military training (BMT). As Murray Feshbach has pointed out, approximately 2 million youths each year are given this training prior to induction. When the new law on military training was promulgated in 1967, General Shtemenko wrote that some 45,000 schools would require instructors to conduct this training.

Figure F-2

AN OVERVIEW OF THE GENERAL ORGANIZATIONAL STRUCTURE
OF THE MILITARY COMMISSARIAT SYSTEM



1) Some military districts control several union republic military commissariats.

2) Other union republics (namely the RSFSR and Ukraine) have several military districts within their territories so that districts are at the next lower echelon.

3) Some large cities have several internal regions.

— = Operational control. - - - = Technical control.

Apparently, these instructors were obtained by simply recalling colonels from a reserve status to active duty. In effect, this returned 45,000 officers to active duty at one time.

As we have observed, many of these activities (e.g., civil defense, DOSAAF, and BMT) are staffed by reserve officers. I am reminded of the article which John Erickson wrote not long ago about the rejuvenation of the Soviet officer corps. In this article, John wrote about Khrushchev's drastic 1960 reductions in the officer corps which involved the retirement of about one quarter of a million officers in one fell swoop. These officers had great troubles adjusting to civilian life. Some committed suicide, and others were very depressed because they were unable to find any work which they enjoyed. Industry did not want them because they were over-qualified. This reduction appears to have been a drastic mistake. In fact, actual implementation of the reduction was suspended a little later because the economy just could not absorb all the retirees. So, some of the foregoing programs might simply represent a means of taking care of those officers who were transferred, and are being transferred, into the reserves at comparatively young ages. For example, Soviet colonels must retire at age 50, and lieutenant colonels at 45. These men are still young and, unlike their counterparts in the U.S., they cannot go into the sale of real estate or selling bonds on the stock market. Such jobs do not exist in the Soviet Union.

SUMMARY

So, in summary, the foregoing programs do provide, in part, a means of utilizing an accumulation of military talents. As Marshal Grechko observed, the Soviet Government wants all of the youth in the Soviet

Union to go through the "university" of the Armed Forces. According to him, every youth who passes through this "university" comes out a better man, trained for civilian life. This training may also be perceived as a good curb against juvenile delinquency and a means of molding the new "Soviet man".

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and the 1970s and 1980s, the number of people in the United States who were considered to be in poverty fell from 36.5 million to 27.3 million.

APPENDIX G

GENERAL DISCUSSION

GENERAL DISCUSSION

Moderated by

Dr. Robert N. Ginsburgh

INTRODUCTION

The general discussion presented in this appendix is, in fact, a chronological summary of the questions, answers, and observations that evolved subsequent to the presentations in Appendices C, D, E, and F.

As such, it reflects not only an expansion upon the subject matter presented by each of the panelists, but also items of particular interest to the participants in the seminar. As may be observed, some of these items appear to be of sufficient interest to warrant consideration in terms of new or expanded research on the subject of Soviet defense manpower and are therefore highlighted in the main body of this monograph.

QUESTIONS, ANSWERS, AND OBSERVATIONS

Question

In your recent publication on Soviet Warsaw Pact force levels, Professor Erickson, you noted that the Soviets may be increasing their term of military service once again from two and three years to perhaps three and three-and-one-half to four. It seems to me that this change would greatly exacerbate the demographic problems which Dr. Feshbach addressed. I wonder if you have obtained any recent confirmation of this possible change and if Dr. Feshbach would care to comment?

- Professor John Erickson: The answer is "yes". I think that the Soviets are doing this by making some rather careful adjustments before they release personnel from military service. As far as I know, it does not seem to work in a very uniform fashion. You can also observe this situation because it is commonly complained about -- very bitterly, indeed. The same kind of a ragged profile is present in the armed forces of the Eastern European countries, and it creates real overt disgruntlement. I think that a change in the length of military service would probably be due to operational requirements or whatever other requirements are served. Of course, these requirements will vary considerably from area to area. I don't think that there's a dastardly plot to keep these chaps in the service longer -- which is related to a discussion I had with them about the biannual call-up system. The Soviets are very well aware of their labor constraints, and they state quite honestly that they retain some military personnel because of labor problems on the collective farms. That's the truth. Then you ask: "What calculations have you made with regard to a biannual call-up system?" In this regard, I'm not interested in actual contingents, but rather in the training staff, because training costs increase in a particular way, and the maintenance of training equipment is even more expensive.

Another subject which I had not yet touched upon, but which Dr. Feshbach did mention, is their colossal, incompetent, and gigantically expensive program for reserve forces. Really, one of the most expensive forms of military manpower is to maintain the training state of reservists. However, the Soviets do prefer reservists, and they do pay the price for them.

Therefore, my answer is that the Soviets perceive all of this "through a glass darkly." They are well aware of the problems involved, and there are many stopgap measures which they are trying to implement -- but they are really not coming to grips with the problem at all. Some of them realize that the problem is indeed massive. The majority, however, would say that you can just continue with the present system, patching it up a bit now and then, and everything may be fine. But, of course, this really cannot be the case.

Generally speaking, my remarks on this subject reflect Soviet naval manpower problems. It's not accurate to talk about Soviet defense manpower at large -- lumping together the Air Forces, the Ground Forces, and the Navy -- because studies of each of the services will result in different conclusions. Having just talked to some of their Navy personnel, I thought that Soviet naval manpower planning was jolly good -- they really have done their homework. If there is any group of people who do work which generally corresponds to my work, it's the Soviet Navy people -- they are really excellent. But they have an entirely different manpower profile than the Ground Forces

and the Air Force. During the next fifty years, I anticipate that the Soviets will be constantly shifting the nature of their military deferment pattern as well as their reserve officer pattern. It's not a matter of keeping all personnel; it's just that they are trying to retain some personnel longer. Maybe they want radar specialists, or some particular skills. This is related to another problem which they must solve; namely, how they will handle what we call job allocation or the job slots. As Dr. Feshbach pointed out, they do have a gross cohort problem. In the British forces, we call it "the perceived requirement", which is followed by the job slotting. The Soviet job slotting is very interesting, but it has gone awry and just doesn't work very well. Each of these areas exhibits a ragged profile. But, as I've already said, I don't think that the situation reflects a terrible plot to cheat the Soviet youth of a few months of their lives.

- Dr. Murray Feshbach: If the Soviets extend the length of military service of conscripts, the effect is clear and simple -- it would further decrease the supply of manpower available to the civilian economy and, as we know, manpower shortages will already be desperate in the civilian economy.

It is true that the Soviet labor force does include a significant number of "hidden reserves". A full 50% of their production workers are what we call auxiliary workers. These workers are the non-basic, non-production line segment of the labor force, and at least 80 to 90% of them are manual laborers. But, the Soviet effort to tap these reserves and free them for other employment faces severe obstacles. The modernization of their industrial plant processes and procedures would require large and expensive purchases of mechanization technology and facilities from the West -- including items such as conveyor belts. However, it is beyond the capital means of the Soviets to afford all of these expenditures, especially at this time when they need to use much of their limited foreign exchange assets in order to buy grain from the West. They cannot procure everything that they need nor do everything that they would like to do.

The Soviet manpower situation in the civilian economy is further aggravated by internal labor migration. Currently, labor in the Soviet Union is the market factor which has the greatest mobility. Upon graduation from a higher school and completing a three-year assignment, Soviet people are free to move anywhere they wish within the Soviet Union within the constraints of the passport system. The Soviet people acquired this freedom in 1956 when the law, which had been in force since 1940 and prescribed criminal penalties for anyone who moved from his/her place of work, was changed. Actually, the stiffer penalties of this law were relaxed as early as 1951. Unfortunately, the Soviets are discovering that current demographic migration patterns are not highly favorable for the economic development of the country. People are leaving Siberia and

the Far East and moving to the South and to the sunbelt. They are leaving the areas which the Soviet Government has been attempting, at great expense, to populate and develop. Some 800,000 more people left Siberia and the Far East than the Government moved into this area. Furthermore, these people are not migrating towards industry, for there is little industry in the South -- they are leaving it. This development has economic significance and strategic implications as well.

Question:

What are your observations with regard to Soviet "featherbedding", Dr. Feshbach?

- Dr. Feshbach: The Soviet manager has a continuing problem in terms of labor rationalization which involves such factors as output maximization, minimum costs, and more bonuses for workers who produce. Furthermore, he is always confronted with the problem of having to send workers to the collective farms during some seasons of the year to assist with the planting and harvesting. The Soviet Government also commandeers military personnel and millions of students for this purpose. The Soviet industrial manager also knows that his required production may be boosted at any time. In view of these problems, can you give me one rational reason why the Soviet plant manager shouldn't "featherbed"? No, there is none.

Question:

With regard to the same question, couldn't the Soviets change the rules?

- Dr. Feshbach: Yes, they could, but that would involve certain costs which they do not wish to incur. One cost might be the recognition of unemployment which, of course, is a political anathema. One day in 1930, Soviet statistics listed 250,000 workers as unemployed. The next day, a decree was announced to the effect that henceforth there would be no unemployment. Ergo, there is no unemployment and no unemployment statistics are maintained. However, I would point out that there is structural, technological, frictional, and seasonal unemployment in the Soviet Union which the Soviets actually admit, although they don't use the same terms as we do. Some Soviets call these unemployed workers the "hidden reserves" of the system.
- Dr. Warren Eason: Unemployment per se is not a "dirty word". It's the movement of an individual from one job to another and the fact that he might be out of work for awhile. This is really part of the answer to the question which was raised. Where are you going to get the people? What are the trade-offs? Are they going to have to take

them from some industries where there is really a surplus (according to rational calculations) and move them to others where there are shortages? Why aren't they sensitive to this? These are old questions -- not new at all. Are the Soviets ever going to become sensitive enough to the kind of qualitative problems which you are talking about to change the rules, modify management, or get smart?

- Dr. Feshbach: They know what is going on, but the problem involved in making changes is the political costs which might have to be paid by the Party. For this, and a variety of other reasons, they are not willing to make the necessary changes.
- Dr. Eason: But the figures which you cite indicate that, by the 1980s, the underlying economic costs due to these pressures are going to be substantial.
- Dr. Feshbach: Absolutely.
- Dr. Eason: Will they be sufficient to force the Soviets to change?
- Dr. Feshbach: I hope that is a rhetorical question. Will they?
- Dr. Eason: I think that we should study this question in order to determine if and when the Soviets may become sensitive enough to force them to change.
- Dr. Feshbach: Aside from the portion of my presentation which dealt with the military, I delivered essentially the same presentation, with a few more details, at Moscow State University. It was my impression that the Soviets are well aware of these problems. They'll acknowledge them in private conversations, but not in public print. The issues involve a range of sensitive questions which have to do with access to Soviet leadership and what that leadership wants to do.
- Dr. Eason: But, Soviet leadership is going to be confronted with these pressures. They can't escape them by just wishing them away.

Observation:

With regard to the utilization and impact of conscript flow on Soviet military efficiency and capabilities, I believe that the body of evidence would indicate quite persuasively that there is a distinct correlation between the long lead-time, high security-sensitive positions and the

percentage and distribution of conscripts, which could easily be reversed in the case of some of the long lead-time specialty units. Hence, the effective utilization of training time for personnel entering the construction troops would be minimal, whereas some of the more specialized, highly technical military services, such as the Strategic Rocket Forces (SRF), might indeed depend very little upon conscripts to satisfy their requirements.

- Dr. Feshbach: Your observation is very logical. But, if as many as 40% of the Soviet conscripts come from areas which are less technologically-oriented, will the Soviets be able to man all of their elite units? Certainly, you would know the answer to this question better than I.
- Mr. Dale Pafenberg: Apparently, the Soviets regard the individuals who are trained to fill these long lead-time, high security-sensitive positions as long-tenure personnel and offer them rapid advancement and other inducements.
- Professor Erickson: I think you can say that due to technological complexities, the Soviet missile forces and the air forces are really dependent upon what the British would regard as "constant service" or an approximation thereof. One can obtain a better insight into this question by investigating the activities of the regional Soviet commissariat -- which is a very complex and difficult subject, indeed. However, the Soviets do offer several inducements; such as direct entry into the military service at the rank of sergeant. But, this has created another problem involving warrant officers whom they have tried to promote and bring forward. Then, they also face the very crucial problem (not so much in the technical units, but in the ground forces) wherein they have a 19-year-old sergeant who doesn't really command much respect at all. Of what use is he until he is 27? They've never really solved that problem in any real sense. In this context, they are also confronted with the immediate danger that, with all that they've offered these technically skilled individuals, they will now be interested in becoming officers -- and this is a subject with regard to which they are very careful.

A point which I would like to reiterate is that, for obvious practical reasons, one has to abandon the notion of Soviet defense manpower per se and look instead at the manpower of each service. For example, by looking at the Soviet Ground Forces, you may observe that they have learned what to do with a conscript. They have discovered that, quite clearly, the pre-military training

doesn't really provide any training at all. So, they now give each conscript six months of training before assigning him to an operational unit where he can fill a job slot as the driver of an armored personnel carrier (BMP) -- which is fine. He will do very well for some 14 or 15 months, but the system totally precludes cross-training. Therefore, some of the very elements of the low-level, but important, tactical effectiveness which they wish to achieve are precluded by the very system they are operating.

It might be a very worthwhile idea to investigate precisely what the various forms of manpower planning are in the major elements of the Soviet Armed Forces. Actually, I think the Soviet Armed Forces have some statisticians who are really just crude military mathematicians with some very small staffs. An interesting observation is that the best and most perceptive questions with regard to the effectiveness of training have not been emanating from the military, but from the main political administration. The political administration has made some very pertinent comments and actually performed a rather good study on the subject of training effectiveness. But, I think it is astonishing that such a study wasn't done by a military staff agency.

- **Mr. Pafenberg:** I think that the Soviets have come to the conclusion that they need a super-service element to allocate the percentage of billets to be occupied by conscripts. We know that tables of distribution exist at all unit levels identifying which positions will be occupied by conscripts and which will be occupied by extended-service personnel. So, I concur with Professor Erickson that we do need to initiate a thorough study of the Soviet enlisted personnel management systems.

Observation and Question:

It seems to me that there are two important issues which we have not yet really discussed. Professor Erickson alluded to one of them in his remark to the effect that the increased length of military service is due to the longer training required for personnel who must operate more sophisticated equipment. It seems to me that, as the Soviet Armed Forces acquire more technical and sophisticated weapon systems, they will be driven to do less on-the-job training and that this six months (or longer) of specialized training will, in fact, increase the length of the service of these individuals -- which, of course, keeps them out of the civilian labor force. Secondly, with regard to the cohorts that will join the labor force in the 1980s, Dr. Feshbach failed to mention whether or not the Soviets could alleviate their problem by increasing their induction of women. If they did, what would the impact be?

- Dr. Feshbach: The Armed Forces do take women but, if they were to induct more women, the effect in terms of manpower would be the same as if they inducted more men. That is to say, there would be a drain on the overall manpower available for the civilian labor force by taking them into the military.
- Mr. Burton: I would assume that the increase in training required for technological courses has to be a reason for increasing the length of military service.
- Professor Erickson: Not necessarily. It also depends upon the efficiency of the training, on-the-job training, and all of these sorts of things. There is also a connection between the length of service and in what state of training you wish to keep the reservists. Obviously, you've got to do that too. I'm not referring to strictly reserve forces, but really to active reserve units. I don't think that, simply because training has become more complicated, the length of service necessarily has to be extended. One can see certain cases in which this is true, but it is slightly offset, I would say, by the fact that there are quite a number of individuals entering the Ground Forces who really have quite good technical backgrounds. They are well grounded, and this is one of the gains that the Soviet Ground Forces have made over the past ten years. Of course, in this connection, the loss is that it is more difficult to train each officer, but I don't think that's necessarily axiomatic with respect to the length of training. A longer period of training may be related to problems of cohesiveness or to the nature of certain units, or they may simply want to make use of more time. Another question which one has to bring up with regard to training is on-the-job training; it is very important. The Soviets make it out to be a complicated lot, but apparently they don't investigate it very deeply. They just get into the habit of doing it, and on-the-job training either breaks down or it works.

Question:

With respect to the research which Professor Erickson suggested should be done, I find it interesting that, if the word United States were substituted for the word Soviet, we would find that we too must face many of the same problems. We need to understand the social aspects of the U.S. forces. I'm not in the Department of Defense, but I suppose that I might be categorized as a member of the U.S. Intelligence Community looking at the Soviet Union. In this context, I find the problems to be parallel. Indeed, we don't have a good understanding of many of these problems with respect to the U.S. Armed Forces. Therefore, it would seem to me that trying to develop answers to these problems with respect to the Soviet Armed Forces would be even more difficult. I was wondering whether Professor Erickson would care to comment on how the Intelligence Community might go about doing that. This also pertains to the concern expressed

with regard to military manpower management in the Soviet Union. I think that the same comments might apply as well to military manpower management in the U.S. where there is evidence that we don't have an integrated, well thought-out, military manpower management system. How would you suggest that the Intelligence Community pursue the research which you have indicated needs to be done?

• Professor Erickson: I don't know how one would make suggestions with regard to research to an intelligence community, because I don't know anything about intelligence communities -- and that may be a drawback or it could be a slight advantage. But, if you were to ask how a university would pursue such problems, I would say that the first thing I would like to see is a lot more people working on these problems. If you would like a more pragmatic answer, here is what I would do:

-- First, I would have the National War College invite a dozen young Sovietologists (not necessarily military manpower specialists, but good thinkers who may never have addressed these kinds of questions at all) to study the available literature on these problems and let them approach the problems in their own way. This is important, because I think that they may approach the problems in quite different and more interesting ways than is now the case. Of course, there must be some efficient division of labor among these specialists.

-- Second, we are at a grave disadvantage in discussing this problem without any basic knowledge or grasp of its institutional framework. For example, take the volumes of studies on the form of medieval France which reflect a great deal of hard work devoted to illuminating the State structure -- this is the academic approach. But, when we turn to the subject of manpower, we seem to think that we can simply dispense with all the academic processes and just say, "Soviet manpower studies? Fine, let's go." Unfortunately, however, there is no proper ordering of the micro studies and, quite rightly, we must have them and demand a lot of factual data as well. In short, I think that is is essential for institutions such as these to conduct investigations within an established framework and combine these investigations with the best judgments available. I'll wager that, within a year, you would observe a considerable transformation in the state of the art.

-- Next, let me ask how many people who work on Soviet manpower actually read Russian? There's a wealth of information available in Russian open source literature -- certainly enough to give people a good grasp of the problems. Then, place these individuals in a "tactical" position to discuss some of the more detailed military aspects of the problems.

-- Finally, both the Intelligence Community and the non-intelligence community should begin to develop a compendium of relevant terms, their usages, and an explication of them, so that one can talk intelligibly about the subject. In particular, a glossary is needed with respect to the technology of training.

Question:

In your opinion, Dr. Feshbach, is it true that alcoholism is concentrated primarily among the Slavic elements of Soviet society and is not prevalent throughout Soviet society as a whole?

• Dr. Feshbach: When I commented a few moments ago that alcoholism is rampant in the USSR, I neglected to point out an interesting figure provided by Vladimir Treml. Vlad has calculated that official Soviet revenues from the sale of alcohol are between 19 and 20 billion rubles a year -- which is greater than the explicit Soviet defense budget of roughly 17-18 billion rubles per year! It is these figures which would indicate a very high rate of alcohol consumption, and these figures do not include home-brewed alcohol, which is also widely consumed.

However, in response to your question, there are some regional aspects of alcoholism. It does appear to be concentrated in the Slavic areas, as distinguished from the Russian and Ukrainian areas, but is less prevalent in the Central Asian area. It is even less common among the Jews, who are mostly European. So, alcoholism is concentrated essentially in the European section of the country; i.e., the primary industrial base area. Therefore, it is certain to affect productivity levels, and there are always Soviet campaigns against it. However, the State may actually be ambivalent on this subject due to the tremendous revenues which are involved.

Observation and Question:

With reference to Harriet Scott's presentation, it would appear to me that the Soviet military structures which she addressed are very large and complicated and that drawing conclusions with regard to manpower solely on the basis of being able to define a portion of these structures may be quite unwarranted. Although the concept of an organizational "iceberg" is quite rational and has much to recommend it, many Soviet Government organizations which we've studied with some care are only partially manned. The mere fact that an organizational structure exists on paper and that the top command positions are filled is no guarantee that positions below the "tip of the iceberg" are indeed

occupied. In any event, I think that the burden of proof rests upon those who argue that every position is filled with people who are actually doing their jobs.

I would also like to raise a question about the actual functioning of these Soviet military organizations. Obviously, the distinction between formal structure and actual functioning with respect to any large organization is crucial. It seems to me that this distinction would be especially true with respect to the organizations that you have described -- particularly since you suggest that some of the top levels may afford comfortable positions for military pensioners. In my opinion, these large bureaucracies must be studied very carefully in order to determine whether they actually do anything and how effectively they function.

• Ms. Harriet Scott: The Soviet military commissariats process an enormous number of people. Each year about two million 17-year-olds must be registered for the draft. In addition, the eighteen-year-olds must be called up and integrated into the services, and men completing their two years of service must be placed in reserve units. Although we may not be able to identify all of the manpower who are performing these functions, we do recognize that a vast number of people are being processed and that these functions certainly require a significant amount of manpower.

Some of these programs which I described have been in high gear only since 1972. When the Soviets first announced the importance of these programs and organizations, they used their Five-Year Plans to describe what they hoped to achieve at the end of each five-year period. Of course, at the next Party Congress, they may explain that they just did not achieve their goals in some areas.

Several letters which I have seen in the Soviet open periodicals reveal how the Soviets are working to staff these organizations. A letter from an individual in Central Asia described a specialist school run by DOSAAF in which a private in the reserves was teaching the conscripts how to drill, but the private had never been in the Army! Obviously, this situation reflects a decision to simply fill an organizational position with a body. Whether or not he was qualified is another question. Obviously, he wasn't, for the Soviet press pointed out this shortcoming in order to show that stronger efforts must be made to improve these organizations.

WORK IT OUT. YOU ENJOY YOUR WORK AT HOME. SO YOU CAN WORK AT HOME AND THE SOVIET SYSTEM. THIS SO YOU CAN DETERMINE HOW THE SOVIETS WILL ACT ON THEM. IN TERMS OF THESE ESTABLISHED CRITERIA WITHOUT FEAR OF SOVIET DISMISSEING THE SITUATION. THIS, I WOULD STRONGLY SUPPORT.

Observation and Question:

In almost every one of the issues which we have addressed thus far are problems of a much more subtle and complex character that frequently haven't even been specifically identified in the discussion. For example, Professor Erickson has expressed his concern about the quality of Soviet military manpower. Who can deny this concern with respect to an officer corps in which, as Mr. Brezhnev has said, everything depends on quality and effectiveness? But, precisely who are these individuals entering the Soviet officer corps, and how are they being prepared for the functions which they are asked to perform? As Murray Feshbach has indicated, it is obviously true that there is a serious crisis with regard to general, unskilled manpower within the Soviet Union. Although the distinction between unskilled and highly qualified manpower can be made (and I think it needs to be made quite sharply), the expansion of the Soviet general education system has been so rapid during the past few years -- and promises to continue with the spread of new universities and institutes across the country -- that there is a serious danger of creating a glut of people who have the expectation of holding jobs appropriate for a B.A. or M.A. In addition to shifting the discussion somewhat from the previous question pertaining to numbers of Soviet military personnel, I wish to ask Professor Erickson if he perceives that this other demographic change -- i.e., the increase of highly educated people in the Soviet Union -- is likely to have an effect upon the Soviet military system?

- Professor Erickson: That's a rather large question, but harking back to the question of how I would go about initiating research in this field, I would first of all make it compulsory for everybody involved to read Professor Kurtz's book on The Army Under Nicholas the First. There you will begin to see giganticism at work, and you will also see many of the problems that face the Soviets today. Indeed, the Soviets are very well aware of this.

Now, with reference to the question that you raised on comparisons, I can't compare anything with the United States because I don't know anything about the U.S., and I really know

very little about the British. Therefore, my approach is to find something which is historically valid and socially real. As Harriet Scott has just stated, the military commissariats are hundreds of years old, so we are really observing a system in terms of structure and functions over an extended period of time. In this context, there are some very accurate observations which you can make. One which strikes me as being very useful is that, with respect to performance, the situation in which the Soviets now find themselves is practically identical, in fact, with that of the Russian officer corps of 1890-1906. They are terrified by the situation and powerless, and it "sticks out like a sore thumb" -- mainly because all of the questions which worried the Russians then confront the Soviets now; for example, budget factors, demographic factors, and key questions with regard to the structuring of forces. So, there is one example of acquiring a very useful insight into a significant contemporary question without imposing any kind of perception, preference, or false social comparison upon the insight. I really recommend this book very strongly; it is essentially what is needed to obtain a good grasp of what Russia is like and social practice as it is conceived. So, that's one point.

With respect to the second question that you raised -- i.e., Soviet realization of their problem with performance -- I would just like to relate what I read in an article by Marshal of the Soviet Union Kulikov which was published in May of 1976. Kulikov is an extremely intelligent officer; in fact, perhaps one of the most intelligent military leaders in the industrialized world. In any event, Kulikov raised the issue of whether or not the Soviet officer system is really working. This reflects an awareness that the system isn't functioning the way it should be. Therefore, the questions which they now face are whether to go on adding little bits to the system and "pasting it together" or whether a quantum leap is essential. This Kulikov discusses in his article, which is perhaps the most important piece of Soviet military and social comment that has appeared since 1945 -- perhaps even prior to 1945. He is really very well aware of the situation, but even his attempts to do a little bit about the situation have met very strong opposition from the Soviet officer corps. I have talked to Soviet officers and asked "What do you think of Kulikov?" "Fine, he's a bright man, but he's an awful task master -- he makes us work!" The moral is that you must try to understand their perceptions. They have certain ways of doing things, certain ways of registering, and that's what I think you must look for. For example, how do they externalize their dilemmas? To answer this, you just have to examine their collection of preconceptions, good ideas, bad ideas, and just plain mixed up ideas.

I would conclude my remark by stating that, if we carefully select some criteria for demonstration with respect to the Soviet system and the Russian system, then we can determine how the Soviets will react to their dilemmas in terms of these established criteria without fear of badly misjudging the situation. This, I would strongly support.

Observation:

Professor Erickson commented that we just can't wish these Soviet organizational "icebergs" away -- they are there. Whether they're firm (fully manned) "icebergs" or whether they're mushy (partially manned) "icebergs" is another question. They are, however, either efficient, and therefore potentially dangerous, or inefficient, and therefore costly and wasteful to the Soviets. But we must estimate the size or numbers of them in order to develop some appreciation of their quality, good or bad.

- Professor Erickson: I do have an additional comment on this point, though it doesn't relate to size, and that is the fundamental Soviet reluctance to introduce new institutions. Isn't that their problem -- they take the same organization and go on and on forever? Indeed, to cite a very good example (though somewhat removed from my own area of combat training and Soviet soldiers), why haven't the Soviets established a military procurement agency? They just don't like to set up new agencies. Here you have this military system which has only suffered at the most three, but certainly only two, substantial changes, in about 150 years. This is incredible! Then, there is another puzzling thing -- they have actually conducted some very interesting studies on their reluctance to establish new institutions. Now, what effect does that have on the operation of a system which they know ought to be innovative?
- Dr. S. Frederick Starr: There is an immensely important fact with regard to Russian history which is particularly significant in terms of the military, and we should keep this in mind. The Crimean War was one of the major military disasters of Russian history. It probably produced the single greatest shock that the Russians have ever experienced as a result of their own military incapacity. While the Tsar and his ministers were still reeling from the defeat, they decided then and there in 1856 to overhaul the military from top to bottom. A large sector of the civil administration was also marked for overhaul. However, it was not until the 1870s that the Russians actually began this task. The reorganization of the Navy was quickly accomplished, but other problems were not so readily resolved; these problems were rooted in an institutionalized rigidity which was based upon the fact that these institutions had been constructed from the top down -- precisely the opposite of the way in which Americans expect institutions to develop. We expect institutions to have good roots and to be strong at the bottom, even if the individuals at the top turn out to be less than what is expected. In the Soviet Union,

and particularly among the military, exactly the opposite is true. Hence, sources of innovation at the bottom are frequently missing. So, this is a situation in which the "iceberg" metaphor would appear to be inappropriate.

- Dr. Feshbach: Before I comment on Fred's remarks, I'd like to say that both Fred and I are members of the Research and Development Committee of the American Association for the Advancement of Slavic Studies. As the result of Fred's initiative, a conference is being organized on the subject of the impact of the military on the Russian and Soviet societies. This conference should certainly contribute to our knowledge of this important subject, and I wished to bring it to everyone's attention.

Now, with reference to Fred's initial point concerning the general quality of Soviet education and, in particular, education in the Soviet military establishment, I am also a member of four different working groups which attempt to implement the U.S./U.S.S.R. agreement on science and technology. This agreement was signed in May of 1972 by former President Nixon and Chairman Brezhnev. I am particularly interested in that section of the agreement which provides for the exchange of information on training and utilization of scientific and technical manpower. Just this past month, we finally received one half of the Soviet submission under this exchange agreement. Part of the information concerned training, but another part gave us, for the first time, a breakdown of the parttime versus fulltime training of graduates of Soviet higher educational institutions. We thereby learned that fully half of their engineers are trained in correspondence and evening schools. This surely says something with regard to the quality of their engineers. I have asked the Soviets for more long-term data so that we can make a better assessment. But, based solely upon this information, we must question any comparisons between the number of Soviet engineers with diplomas (i.e., 3,200,000) and those of the U.S. (1,200,000). First, there is a definitional question with respect to how an engineer is defined in the two countries. Roughly speaking, a 10-15% difference emerges in some of the calculations which we've made with regard to the numbers of engineers. Then, there is this additional question of parttime versus fulltime studies and whether or not this factor would tend to further discount the Soviet figures. I think that studying to be an engineer on a parttime basis certainly impacts upon the quality of the engineer. In addition, there is the fact that specialties within the Soviet educational system are much narrower than in ours. The Israelis have found that many Soviet emigrés coming to their country have higher level educational degrees in many fields. However, the emigrés are so narrowly trained -- particularly in engineering -- that they are virtually "immobile". They are not civil engineers like our civil engineers. They are very narrowly educated engineers (e.g., pumps and compressors) with an expertise suited to the world 15 years ago. So, how does one evaluate the quality of education in both the military and civilian economies?

Observation:

Implicit in comments which have been made thus far with regard to efficiency and effectiveness, there is a preoccupation with Western, or U.S., concepts of what constitutes efficiency -- that is, output per individual task that has to be performed or output per person -- rather than getting the job done in a way that's best in the overall context of the society. In that sense, although an examination of the quality of Soviet engineering students might be quite useful and, indeed, very interesting and valuable, it would not necessarily indicate that the Soviets are facing a technical manpower crisis. It may be that their definitions of what constitutes effectiveness are fundamentally different from ours.

- Professor Erickson: But, it seems to me that the point is to try to identify what their perception of effectiveness is in terms of the kinds of measures that they are using. When I first came in contact with the Red Army, everybody told me, "What an awful lot they are -- they are not really very efficient, even by British standards." However, what they were addressing was the appearance of inefficiency. Because the Soviets didn't look efficient, people assumed that they just couldn't be efficient. But, if you saw their T-34 tanks, you really received a shock for they were bigger than anything we had and they were operating them efficiently. So, there is that superficiality to consider.

Once again, I would say that the Soviets are very well aware of what the efficiency issue is, and they have mechanisms for expressing it. What I am saying is that we ought to be looking into those mechanisms. For obvious reasons, we can only utilize calculations, existing semantics, and definitions thus far, but I do think there are some pretty reasonable cross-checks. What's a net assessment, anyway? It's just accurate historical work.

Question:

Professor Erickson, I wonder if you could provide us with an overview of the Soviets' perceptions of their own combat shortcomings as you see them?

- Professor Erickson: This is a subject which I didn't really want to address because it involves much detail and will also be severely subjective in some respects.

However, to begin with, let me stress again that I think one can address this question only on a Service-by-Service basis. We may like to think of Soviet defense manpower in great abstraction, but the important distinctions are to be found in examining the individual Services -- and this is very important indeed.

As Harriet Scott pointed out, there are certain very obvious shortcomings with which the Soviets are really deeply concerned. As I've already indicated, they are very concerned about their officer corps, particularly at the lower levels -- not just in terms of demographic factors, but also in terms of skills, education, and performance itself. This applies, I believe, to all sectors of the Soviet Armed Forces, and the solution which they selected is to give their officers a massive dose of education. This might serve a number of purposes, but it also entails great risks and may simply compound their difficulties. For example, it results in the Soviet junior officer being drastically overworked. He is perhaps the hardest worked man in the Soviet Armed Forces, and he spends 12 years being educated -- which is a long time. In the British Army, the maximum time spent in being educated is about 6½ years, and that reflects very advanced specialist positions which require very high-grade technical skills. So, in their search for greater efficiency throughout the Armed Forces, the Soviets are, in effect, depriving themselves of the very services of the people whom they need to produce this efficiency. These junior officers are being constantly pushed by the system and are given work loads which are really very difficult to satisfy. I am very surprised that people are so amazed at what Lieutenant Victor Belenko has to say about the brutal, hard-driving, and actually fearsome life in the Soviet Air Force; it is also a fearsome regime. As I may have mentioned, my brother-in-law commands a MIG-21 fighter regiment in Yugoslavia, and we are jolly glad that he's through his training and actually flying. It is a very difficult life for these junior officers due to shortcomings in equipment, technical proficiency, and training. However, the Soviets attempt to compensate for these shortcomings by sheer brute drive. This is a general problem throughout the Soviet Armed Forces which is certainly reflected in Marshal Kulikov's statements.

Now, a second major area of Soviet concern and one which pertains to the Armed Forces of other Warsaw Pact countries, as well as to that of the Soviet Union, involves the crucial questions of morale and motivation. They've discovered that the modern soldier has changed, and a lot of study is being devoted to the subject of the nature of his military work. In this context, there is a very excellent comparison which can be made now, and it wouldn't cost you anything. If you'll obtain copies of Voina i Revolyutsia for 1928 or 1929 and review them for articles on the organization of military work, you'll discover that they reflect current conditions practically word for word. Morale and motivation are very crucial concerns, which leads back to the Soviet concept of a cultured officer and

raises such questions as:

- Is the officer good enough to work within the system?
- What has the working of the system done to him?
- What is he going to do for it?

This is really a difficult problem area.

A third area with which the Soviets are very much concerned relates to demographic trends which, like the increase in infant mortality and the rapid growth of the Soviet Central Asian population, is attracting attention. The Soviets are learning that, in physical terms, the modern Soviet soldier is not just a "patch on his father's pants" -- he can no longer lug tree trunks and carry 56 mortar shells around in battle. This change has created a major problem and has led to some very interesting research on stress, morale, and performance factors on the battlefield. I think that they have done some good work in this area; for example, physiology under modern battle conditions. It is complicated, however, by the fact that the Soviets haven't been in battle for more than 30 years. As a result, one finds a strange mixture of both theoretical work and a lack of experience -- which causes great concern. The current solution to this problem area appears to be Soviet emphasis upon less of the "fancy stuff" and more straight discipline. Incidentally, you may note that the chief of staff of units and sub-units is now being made responsible for training. He is the training officer and is responsible to the commanding officer for this important function -- which raises questions with regard to the political deputy to the commanding officer whose role in training is also important.

I think that another area of grave concern is their slowness and incompetence in introducing advanced equipment into units and their lack of success in achieving rapid innovation. It appears to me that the so-called "rationalizers", whose role it is to introduce the new equipment and spend a lot of time adapting standard equipment to particular units and climes, is a vast waste of time and money. For example, if they find an engine that uses too much fuel with respect to the applicable norms, they'll spend all of their time just working on the carburetor. This is true in many other cases involving the man-machine interface. Perhaps you're aware that there was a tremendous row among the training administrators, the simulation design teams, and some of the field officers with regard to the use of simulators. The row also involved Soviet medics and psychologists. This situation might be further illuminated by the following anecdote which still recommends itself to me:

I was finishing a volume on World War II and, like many other interested individuals, I wanted to ask the Russians just what happened on the night of the 21st or the 22nd of June, 1941. The opportunity to ask that question presented itself when I was chatting with a friend about this very subject. My friend advised me: "The man standing next to you is Marshal Voronov; he was Deputy Chief of the Main Artillery Directorate. Why don't you

ask him?" I replied to the effect one just doesn't tap a Marshal on the shoulder and say: "Excuse me, sir, do you have a minute?" Well, I finally did ask him what really concerned him on that fateful night when the Germans invaded the Soviet Union: "Was he terrified by the attack?" "No," he said, "but I'll tell what really worried me. It was half-past seven in the morning when I received reports that Russian soldiers were actually fighting the Germans. We had never known whether or not they would pull a trigger or just what they would do. However, once we learned that they were actually fighting, we then knew that the system was working, and we felt great relief."

While I am not suggesting that the current Soviet military system has the same reservations with regard to the ultimate performance of its troops, I do think that there is a certain tremulousness, or nervousness, as well as a sense of misgiving which cannot be completely denied or hidden. This feeling accounts for some of the verbose Soviet propaganda and frenetic activity. It also accounts for some of the lassitude, because they think, "Well, it's just our tough luck, we'll never make any better of that situation", so they'll keep their fingers crossed. The relationship between highly systematized procedures and procedures which permit considerable innovation makes it almost impossible to generalize with respect to what could happen. That's why I think this discussion is of crucial importance with respect to the main question of measuring; that is,

- Describing (which you have to do);
- Comparing (but without intruding); and
- Evaluating (for that's what we're talking about).

Although I may be entirely subjective, I really think that the Soviets either have to get their system working properly or they've got to change it -- and I think the prospect of change terrifies them so they are most reluctant to approach it. I can't see them placing much more weight on some of these matters much longer without them cracking -- and some of them have cracked. The Soviets are not so stupid that they cannot see it. But, this is what defies me in what I might consider a completely rational professional discussion with some of the people with whom I have been corresponding. Simple rational solutions which would suggest themselves to you in institutional terms just cannot be accepted by them. Instead, they remark that you have to understand the social conditions of the Soviet Army which literally means: "We just can't do it; I'm very sorry; and I can't tell you why." I think that it will be very interesting to see whether or not Kulikov can accomplish one or two of the things which he has suggested that he might do during the next six months or so. If he manages to accomplish even one of them, I think that you might see things begin to change. The changes will

have to be concentrated in critical sectors because he doesn't have much room to maneuver. He just can't waste his time on general reforms.

So, that is how I would sum up the present Soviet military position -- arrogant confidence in a system which has brought them political benefits of an unsuspected kind, but at the same time, a sense of misgiving and even foreboding of what some of the implications may be.

- Dr. Eason: This entire discussion is very important for it goes to the very heart of Soviet military manpower problems. Too often, discussions of manpower bog down in debates over numbers. Here, we are looking beyond the numbers and trying to determine how effective Soviet military manpower may be and whether or not the Soviets can allocate sufficient manpower to maintain current force levels. This is indeed valuable.

In addition, we're learning that problems of the Soviet civilian economy are similar to those in the military sector. Nearly everything that we have discussed with regard to the military sector could be readily given a civilian label and be equally applicable. The projected decline in the size of the 18-year-old cohorts in the 1980s places the same pressures on civilian planners that the military planners must face. Soviet concern with respect to its officer corps is paralleled by their concern with respect to whether or not high-level individuals in the civilian sector can provide the necessary innovation, effective management, and control. Questions of military morale and motivation have direct counterparts within the civilian labor force. As Murray Feshbach points out, productivity gains are critical if the Soviets are to achieve their economic objectives, and morale and motivation are vital components of productivity. Finally, it appears to me that Professor Erickson's observation with respect to the changing physiology of the Soviet soldier certainly applies to the civilian worker as well.

One of the most striking comments which I have heard so far is that the Soviets fail to innovate institutions -- this may be the key to a better understanding of both the military and civilian sectors. Therefore, I feel that, in studying Soviet military and civilian manpower over the next twenty years, we should continue to examine the numbers, but that we should also look beyond the numbers to seriously consider the questions that we are discussing here today -- and, we must invest as much time, effort, and perceptiveness in this effort as we have devoted to analyzing the numbers to date.

Observation:

Thus far in our discussion, we seem to have been primarily concerned with problems confronting the Soviet system. However, in order to place

all of our comments, questions, and observations in proper perspective, we should also consider the opposite, but equally relevant, questions of:

- What are the strengths of the Soviet system?
- Which of these strengths will allow them to effect changes in their system -- and which will not?

Addressing ourselves to these questions might help us to determine whether or not these problems which we've discussed are fictitious or real.

- Mr. James Reitz: One strength of the Soviet system is that the Leadership does not need to respond to an electorate.
- Dr. Feshbach: The Tsar didn't have to respond to an electorate, but we know what happened to him.
- Mr. Reitz: Of course, that may well happen again, but, my point is that the Soviet system is a very effective one for getting things done. Not too many people make suggestions, and the suggestions which are made are limited. From the standpoint of speed of implementation, the Soviet system is strong. I won't say that, in the long run, this strength will prove to be lasting nor that this strength gives their system a pivotal advantage over ours for the Soviet system is brutal.
- Dr. Feshbach: It seems to me that the question is: "Will the Soviet Union survive until 1984 or beyond?" If I were to make a rough assessment of the Soviet economy, I would say that it's shabby and miserable and that, if the Soviets didn't have the bomb, they would be no worry to us. But, they do have the bomb, so they also can play games in world markets for petroleum and for certain minerals.

The Soviet system does have strengths, and many Soviet citizens have personal reasons for preserving it. Members of the KGB, the Party, and others with good positions derive their livelihoods from the system. The system is one that they know, and they're not about to "upset the applecart." A few people want to change things, and some of them have emigrated. The Soviets themselves examine their system.

There was a debate in the West which concerned whether or not the Soviets could institute a "half-way house" system. This system would allow the Soviets to move towards autonomy by implementing better management based upon Western methods, but keeping the Party right behind the whole structure. This is what the former Czech economist, Ota Sik was talking about when he spoke of a "shadow economy" with the Party close behind it. Sik's mistake was that he spoke out too loudly. The Hungarians have implemented what he proposed, but quietly.

Questions:

This is a little less cosmic than the overall strengths and weaknesses of the Soviet system, but two points in this juxtaposition struck me. First, with regard to the "iceberg" technique that we've discussed, surely one option is to partially staff organizations when there is a manpower shortage. Obviously, this could cause many problems in estimating Soviet forward combat military units, as well as rear services and civil defense organizations. If the Soviets know that the 1980s will be a decade of manpower shortages (and presumably they can count as well as Murray Feshbach can), and if they perceive that the situation won't be quite as bad in the 1990s (provided they can get through the 1980s), won't they be severely tempted to just reduce some organizations to shells which they will be able to man later or in an emergency? This would certainly make it more difficult for us to estimate just what military manpower they actually have.

I also have a question on the operation of DOSAAF. We have heard from Murray Feshbach that there is a tendency toward "featherbedding" in both the industrial and agricultural sectors of the Soviet economy. In this context, one would think that parttime military training or part-time civil defense work would provide a way of using these surplus energies or manhours in a productive mode without having to turn the institutions upside-down. Is this, in fact, happening or, on the other hand, is it likely that the people who don't "pull their weight" in the factory also won't do much in the voluntary organizations, and that the people who can make the civil defense program work are also the people who, if their time were devoted to factory work, would make the production process more efficient?

- Ms. Harriet Scott: The sparkplug of both civilian and defense activities is the Komsomol, the Young Communist League, which has as members 60% of the Soviet Armed Forces. When the Soviet leadership wants action, it directs the Party to get the Komsomols to initiate or push the programs in the factories, DOSAAF, the schools, and elsewhere. The Komsomols are the activists of Soviet society.

- Mr. Robert Berry: But, do the Komsomols also tend to be the most productive members of the civilian work force?
- Ms. Scott: Yes, because the Komsomols hope eventually to become Party members, to be accepted and, therefore, to have an entré into the privileged class.
- Mr. Berry: Can the Soviets use these voluntary activities to obtain more work from surplus agricultural workers and "featherbedding" factory workers?
- Ms. Scott: Brezhnev made this point very clear when he stated that, up to the present time, quantity had been their goal, but from now on, they must concentrate on quality. As I indicated in the case of the private conducting military training, though he had never had military training, the Soviets have been filling positions with just anybody because they wanted to reflect quantity. As soon as the Soviets are able to replace quantity with quality, they will do so, but they may have to be satisfied with simply quantity for a long time. Of course, quantity is no substitute for quality; but, they are doing the best that they can.

I find it interesting that the Soviets have adopted Grechko's idea of transferring skills acquired in the military by reservists for use in the civilian sector. Grechko stated that young reservists, after completing their active service, return to civilian industry with technical skills and specialties that can be used to improve the overall production capabilities of the country. It is hoped that the lessons and skills with respect to efficiency which are acquired in the military (and the Soviet military is generally considered to be the most efficient part of the Soviet system) will, in turn, help to improve the civilian economy.

- Mr. Donald Srull: Let me add a comment with regard to your first question on the skeleton manning of some organizations. One option that is certainly available to the Soviet military is to use something which we have employed quite successfully -- that is, the unmanned division. The unmanned division was created as a means of coping with the same type of manpower constraints which the Soviets will face in the 1980s. If the Soviets only need to use such an organization until the 1990s, then their manpower problems may not be all that serious.
- Dr. Feshbach: The Soviet civilian economy has already resorted to partial staffing in order to compensate for labor shortages, and plant managers are complaining bitterly about the situation.

I would like to take the opportunity to expand upon one of my earlier comments. As I said, the Soviets are having major problems in keeping skilled workers in their new industrial plants in Siberia and the Far East. The rate of labor turnover in these areas is three times the rate in the central regions of the Soviet Union.

The government energetically recruits workers for Siberia and the Far East, but they turn around and leave very quickly. An implication of this trend for the 1980s is that economic growth, primarily through industry, will be slower than currently projected. As a matter of fact, it could entail a major change in Soviet development guidelines. In the past, the Soviets have aimed at maximum growth, regardless of its costs. Now, it's a question of attaining maximum growth at minimal cost.

If the Soviets do change their approach to development, a host of new issues would then be thrust to the forefront, for such a shift would have implications with respect to:

- Resource allocation, and
- What resources and products would be available at lower rates of growth.

Lower rates of growth are already being projected for the 1980s because capital investment in the present Five-Year Plan has slipped below six percent (according to the Bergsonian Model published in the Problems of Communism). Mr. Douglas Diamond has developed estimates of Soviet economic growth during the 1980s which reflect the production function approach and are in the range of 3 to 3½%. If this is the case, and if the Soviets are forced to man their organizations at less than full staffs, then the resources which will be available to the military, as well as the resources which will be available for consumption, will have to be even less -- which would have all kinds of ramifications.

Certainly, the defense-related plants will be fully staffed. But, priorities will have to be established for producing military goods and producing consumer goods. The questions which will be important are:

- How much "noise" can the consumers make?
- How effective are their demands?
- How much will the Soviets have to import?
- What will the price of gold be?

Undoubtedly, they will try to muddle through in any way that they can.

But, the "featherbedding" issue which you raised again is very serious. Their supply system is so bad that, to this day, every industrial enterprise is virtually a feudal manor. Factories even produce their own screwdrivers. One-third of Soviet ferrous metallurgy -- the iron and steel industry -- is not really in the iron and steel industry; it's in the machine-building industry because, when the machine builders order an item with certain specifications from the iron and steel plants, it will arrive with different ones. When the machine builders complain, the iron and steel industry will say, "If you don't like it, go roll your own." So they do. Specialization ratios are very low in the U.S.S.R., and that is really a large part of their problem.

Observation:

With regard to the Soviets' perception of their military manpower requirements, I would like to suggest the hypothesis that their situation might not look as bad to them as it does to us for the simple reason that we don't know what they consider their real military requirements to be. If they presently have 4½ million men in their Armed Forces, are these 4½ million men being kept in service due to perceived military needs or is it simply that the Soviets want to process that many of their youth through the system? I would subscribe to the theory that they put young men through the military system for reasons other than perceived military requirements. Military service is a good way to give the youth some political indoctrination. I would doubt that having a half million men less in uniform during the 1980s would terribly alarm the Soviets.

- Mr. David Smith: I would agree with you fully, except that I doubt that the Soviets determine how many divisions they need on the basis of manpower supply and demand. The real question is: Where would those half million men be placed? I believe that this goes back to the question of how vital are the civilians in uniform -- the construction and similar troops -- to the Soviets? It could even involve the issue of the mental and physical capacities of the conscripts and where the Soviets will place conscripts who have a lower capacity for military service. These questions would appear to be quite amenable to analysis.

Question:

If the technological capabilities of the Soviet Military Services are improving with the introduction of more technical and more complicated weapon systems, and if the same trend is true in the civilian economy with respect to plans for the utilization of computers, won't the poor quality of Soviet engineering training become apparent at an increasing rate in both sectors?

- Dr. Feshbach: In the civilian economy, the presence of poorly trained engineers shows up all the time. When I spoke of the basic shabbiness of the Soviet economy, I was using a "shorthand"

to refer to their inability to compete in the world market. You can obtain hundreds of quotations from them on that subject, but it is also a question of incentives and of the system which you operate. The Soviets have certain priority industries, and there are a lot of very smart people in the Soviet Union. But, overall, I think that the quality of their engineers is much lower than that of our engineers. The Soviet military may even retrain their engineers; I really do not know.

- Mr. Reitz: I think that this whole question boils down to the fact that in the West, the electorate can manifest its power -- the consumer as well. By contrast, the individual Soviet consumer can hardly be said to have any power at all. The Soviet Government places quality manpower on priority work -- which is in the defense sector. But, they certainly can't turn out the same barbecue equipment that we do.

Observation:

John Erickson placed considerable stress on some of the pronouncements, writings, and speeches of Marshal Kulikov. Some people have felt that Kulikov's recent reassignment would indicate that maybe his sayings aren't that important right now. This would appear to be a view contrary to the one which you hold, John.

- Professor Erickson: That is interesting. When one talks to Soviet officers about Marshal Kulikov, he obtains the general feeling that Kulikov is considered to be a very bright man. I like to see how they classify individuals, because it seems to provide a further argument with regard to generalization. The Soviets do have an interesting kind of internal ranking system which is even exhibited by the manner in which you sit or by the attention that you pay to a speaker. However, it is over Kulikov, in particular, that there is some controversy. Soviet people have said to me of Kulikov, "There goes our next Defense Minister", but they seem to realize that he will not go straight up because he has not had what is essential in military terms for a Soviet Defense Minister -- that is, a major appointment or a major command. Well, Commander-in-Chief of the Warsaw Pact Armed Forces is high enough, and I certainly don't think that it will take him away from the Soviet leadership -- primarily due to the contacts, the conditions there, and the strategic importance of the Pact. I really think that Kulikov is moving up, and it is interesting that he perceives a problem now in the manning of the General Staff. Kulikov is taking great care to ensure that the important officers who join the Staff

all have good engineering degrees. This raises another point which I think may provide some answer to the question with respect to what the Soviets will do when they are actually short of manpower. I think that some of the questions which they will argue over are as follows:

-- What sort of individuals are we going to need for a system that is changing in spite of ourselves?

-- Can you have an engineer/philosopher as a commander?

-- What adaptation must the system make in light of the evolution of a technology-intensive society, which will come whether you like it or not?

I think that Kulikov has taken all of these questions into account very realistically. What he has really said is that people in the scientific and military communities must become a lot more scientific -- they have to stop sitting around drinking tea and doing nothing. But, he is not telling every Soviet officer, "You must be a qualified engineer who will understand all the technicalities of automated data systems." Rather, he is simply saying that the officers must have sufficient background and knowledge of these systems to ensure that they can use them to their tactical advantage. In other words, they must understand some of the essentials, and I will say again that he has been responsible for trying to devise a system which will more or less run itself within the morass of technology involved. If you push them, the Soviet officers will be able to do it, and he perceives this. I think that his influence certainly will not wane at all, but will instead increase.

By the way, it will be interesting to see if Kulikov manages to do one additional thing as well. As far as I know, in all of his published and formally spoken military remarks, he is only the second officer in 14 years who has suggested the introduction of a realistic discussion of military doctrine within the Warsaw Pact. That's an astonishing thing to say, but it's true, and we will see whether or not he will manage to accomplish it. I imagine that in his new position, he will gather around him, as he did in the Soviet Union, some of the very bright officers who are there. One indicator of this action I would expect to see during the next three or four months are photographs of Kulikov with some of these select officers. It will be interesting to see just who those officers are, and remember that Kulikov, interestingly enough, is very well acquainted with Western Europe -- he is a Western European Soviet officer. He hasn't been to the United States, but he has certainly been to Western Europe and certainly knows us and our techniques very well indeed. Then, there is his extraordinary remark, which sticks in my mind, to the effect that the rejuvenation of the Soviet officer corps must go hand-in-hand with not only the re-education, but also with the "intensification" of the Soviet officer.

As in the past and, I'm sure, in the future, all of these ideas and remarks have resulted and will result in fierce disagreements with his colleagues. For the

first time in Soviet military affairs, an individual with a really acute intelligence is at work -- comparable, I think, to the kind of intelligence which Tukhachevskiy demonstrated in the 1930s. Tukhachevskiy had the kind of approach to problems, as well as the kind of mentality, mental agility, and deftness, that Kulikov demonstrates. In many respects, Kulikov is very un-Soviet, but I think that he approaches questions in the right way. It remains to be seen whether he will try some of his ideas within the Warsaw Pact on a very small scale or whether he will wait until he reaches the top position. Remember, when he reaches that position, he will be dealing presumably with a different leadership that might be more malleable. So, I have great hopes for the Marshal, and I think we will indeed see some very interesting developments.

- Dr. Starr: I am sure that Marshal Kulikov's career would be enhanced if he knew that he had been compared to Tukhachevskiy. I would like to solicit opinions on the likely impact of these various developments on the relations between the Soviet military and the Party. One of the curiosities of the Communist Party is that, in spite of the fact that it comprises a minute portion of the population as a whole, almost two-thirds of the Soviet male, college-educated cohort are Party members -- that is, among the educated population of the age that can join the Party (which is roughly 25 to 55 years of age) and among males (which are represented much more than females in the Party). The same situation is true in the Soviet Ground Forces. However, as that group of males with higher education increases dramatically (as it is going to do), the Soviets are going to have some very complicated problems on their hands; for example,

- Should they enlarge the Party, but maintain the same proportion of male, college-educated members, or should they intentionally thin it out?
- Should they keep the Party small and permit it to become relatively more isolated with respect to this vital element of Soviet society?
- Which way will the military go as this situation develops, particularly the officer corps?
- Will they try to maintain or increase the number of Party members in the military?
- If so, would not the military become relatively the most Party-based element of the Soviet elite?

- Ms. Scott: In recent years, the size of the Soviet officer corps has remained relatively stable, and it seems unlikely to me that it will expand over the next several years. However, as you say, the number of technically trained personnel has been gradually increasing. The effects of this trend can be seen in adjustments of the representation levels within the Central Committee. Whereas military representation has recently grown only 1%, the representation of technicians has expanded 3%. If this trend continues,

which I think it will, it would appear that the military will have a smaller voice in the Party.

- Professor Erickson: I would like to add something very quickly. First, the Soviet military and the Soviet officer corps are no longer involved in the education of a private group. That's a change in the Soviet system which has taken about 53 years to effect. Secondly, I would suggest that the social station of those in the Soviet military profession will depend quite subjectively on factors which you can't really isolate. I think that the real battle, and it's going to be a very important one, will involve the degree to which the military's managerial ambitions are satisfied in the coming regime. Will the military be advanced as a professional body for certain institutional reasons and, obviously, for political reasons? A lot will depend upon the manner in which Soviet leadership either accommodates or turns aside the military. In a sense, it's almost a possible source of internal Bonapartism in the Army. If there were ever any form of Bonapartism in the Red Army (which there has not been), it might well take this form in the next decade or so. But, I think that the battle to which I've alluded will mushroom beyond the classic Soviet Army vs Party lines and the search for influence in those terms.

Question:

Professor Erickson, would you comment on Minister of Defense Ustinov and his exposure to Western thinking and the Arms Control Talks in the same vein as you did on Marshal Kulikov?

- Professor Erickson: No, I really can't. I don't know very much about Ustinov or about what is transpiring at the Talks. My only contact with regard to this subject is a very young Soviet civilian who is in some way involved with the SALT talks, so I only have an indirect glimpse of what's going on. Insofar as Ustinov is concerned, I don't have very high hopes for him, but your question raises a point which Dr. Feshbach mentioned earlier. The people who say Ustinov is an engineer are wrong. He is not an engineer at all. Although he has some limited technical background, he cannot claim to have an in-depth engineering background and skills.¹

Questions:

In the context of Professor Erickson's anecdote about the German invasion of the Soviet Union on June 21, 1941, what are the Groups of

¹ Editorial Note: Soviet sources indicate that Ustinov completed the Leningrad Military-Mechanical Institute (LMMI) in 1934 and was promptly assigned to the Naval Artillery Scientific Research Institute in Leningrad. Morskoy Sbornik (November 1976) describes Ustinov as a "capable young engineer" when he left LMMI.

Soviet Forces/Germany (GSFG) really like? Is the impressive facade real or does the GSFG have serious organizational problems? In view of the fact that the Soviets have some 170 divisions in Categories 1, 2 and 3, how do the Category 2 and 3 divisions obtain manpower and trained personnel? What happens to the military personnel who leave the Armed Forces and the GSFG upon expiration of their terms of service? How do the Soviets use this manpower once it is in the reserves, and how is it related to Category 3 divisions?

- Professor Erickson: The GSFG has a number of prominent features. First, it's an extremely lean, quite efficient, but rather bizarre military organization. It is obviously ready to do its job. However, there are one or two things which one may observe that might reflect adversely upon its performance in a general sense, but I think that one might see the same things on the NATO side. Generally speaking, GSFG personnel have a good military background and very good training, and the General Staff officers are a "hard-faced bunch". But, this is no test or estimate of how they would actually perform in war -- no estimate of their tactical deftness. Nonetheless, I think that both the training techniques and the general indicators do tend to suggest that this is really a rather tough army, which is garrisoned in ghastly places from which they roll them out early in the morning and then roll them back and lock them up at night. They are busy from morning to night. Their schedule is so crammed that they work until they drop and are jolly glad to get to bed. It's a hard-working, hard-training army with an extremely efficient staff and an air force that's become an all-weather force. They've "broken their backs" to bring in some 200 MIG-23 aircraft in something like 14 months, and that's a big job, if I may say so.

As you may know, the GSFG has a very high proportion of guards divisions and guards armies. The Eighth Guards Army is the shock army and a very distinctive army. Then there is the Second Guards Tank Army and the Twentieth, which is now beginning to receive its new T-72 tanks, and these are very important. So, the GSFG is a force which, and I hope you won't misunderstand this remark, looks to me like the British Army of the Rhine, which is an army of regular soldiers who know their jobs. A major difference between them, however, is that the GSFG has some turbulence due to the turnover of conscripts. But, I think that their system of training a BMP driver to be a good BMP driver in 18 months does work. So, I wouldn't pretend that this is an organization with a hollow facade. Furthermore, I think that the Soviet officers of the GSFG are very well aware of the constraints under which they are operating and do get the maximum out of their equipment. There is quite a reasonable level of professionalism throughout.

Of the GSFG equipment that I've seen, I would say that it's what the British Army would term as "soldier-proof". It is pretty robust stuff, and it has some very good design features. A British Colonel of engineers, who is a friend of mine, showed me a film on Russian Army bridging operations. British bridging equipment has a very complicated nylon sheath or covering which, if you rip, takes about a day or so to repair it. It's really very complex. The Russian bridging equipment, on the other hand, is simple, soldier-proof, and easily operated equipment, which is really important.

Now, how can one possibly say the Soviet military system gives them "golly-wobbles" and, at the same time, say that this army which they've got (the GSFG) is really good? There is only one thing that I would say which is common to both the Soviet military system at large and GSFG in general. It's no longer a question of will the soldiers fight; instead, it's the very much more complicated question of whether or not we properly understand the psychological stress and the physical demands that will be placed upon these people. Will they really stand up? They do have fall exercises, which are on the right score, but I don't think they delude themselves by thinking that exercises are everything. However, let me give you an example of one thing that they do in their chemical warfare (CW) exercises. Although these are simulated exercises, they wear their equipment. In some of the exercises, as you may know, they actually use a bit of the real chemical agents -- just to keep the troops "on their toes". In their nuclear training exercises, instead of using a burned-out shield to simulate a dead zone, they bury some radioactive isotopes, so that if one is not careful, he'll be in really big trouble with red blisters on his hands. One of the problems with CW exercises, as you may know, is just the physical discomfort of wearing the big, floppy CW suits and gear. When the British have a CW exercise, they wear the suits and masks for an hour or so and then take them off for tea and other light refreshments. In the Russian exercises, they stay in that equipment all the time, whether one is a fighting soldier or is just working on a fuel pipeline. So, the Soviet soldier has been in his CW equipment for enough duration for him to know what it is going to be like. I think that this sort of familiarization is impressive. They have also conducted exercises in the rapid decontamination of their personal weapons, and they have discovered that unless they supervise the soldier closely, he will decontaminate his weapon, but forget to decontaminate the shoulder-holding strap. So, they are very severely critical of their own shortcomings in that field.

Question:

Why do they emphasize chemical warfare?

- Professor Erickson: They emphasize it because it falls within the general rubric of weapons of mass destruction. It is training which they take very seriously. It's not that they emphasize it, but that they actually practice it. I sometimes wonder if they have solved problems like taking a "dirty" helicopter and decontaminating it in a clean area, and what are they going to do about airborne troops? As for taking it seriously, there is no reason why they shouldn't take it seriously, and there is no reason why they shouldn't actually use CW agents under certain battle conditions -- as I should assume they may on a limited tactical scale. They would be perfectly feasible in high-speed tactical operations. In fact, if there is a Soviet version of flexible response, CW agents are ideal weapons for it, so they are not just going through the motions. It must presage battlefield use. I might also mention their detector equipment, which is designed to detect CW agents that we don't even have, such as a hydrogen cyanide (HCN) agent. This simply means that they are prepared to protect themselves against their own CW agents.

Observation:

We have commented on Soviet problems with regard to military living conditions and that the Soviets do not appear to be facing up to them. Why don't they ease up a little bit, build a club here and there, and do a few more things for their servicemen to make their lives a bit more pleasant? Instead, the solution seems to be to preach to the junior officer corps about motivation. It isn't that the soldiers don't like the food, that they don't like the living conditions, or that they'd like to leave their garrisons to see their families -- those aren't the real problems. The real problem is that the officers aren't being properly motivated to care for their men.

- Professor Erickson: It's really a question of money and of the efficiency in their quartering and billeting. From my point of view, I don't think that there is very much they can do about it. It just makes for a very tough life; that's all.

During the past fifty years, we've conducted an advertising campaign: "Come join the army and acquire a profession." Still, we've had problems with recruitment, for there is nothing easy about army life. So, we've gone back to all those tongue-in-cheek myths about military service.

I don't think that any individual who goes into the Soviet Armed Forces can or should expect to live an easy life. Some of the hardships are really undeserved and are just the result of

indifference. They contrast very strongly with what we have been discussing today -- that is, their legitimate concern with man-power. Obviously, these men are becoming very valuable, but this hasn't caused the Soviets to treat their soldiers more kindly. I suppose that it is simply a question of old habits dying hard. I was amused by the new Soviet regulations for internal service. As a matter of great concession, they state that a sentry on guard duty may actually take his boots off and listen to the radio. Think of that!

The attitude of the Soviet senior officers can be very arrogant, reflecting a caste that is quite reminiscent of and comparable to the officer system in a British regiment. There, a colonel is the colonel, and the junior officer is at the bottom of the pole -- that is the essence of regimentalism.

- Dr. Donald Burton: But, John, isn't the Soviet soldier a lot better off than he was twenty years ago? In terms of food, his ration is much higher than it was, and in terms of housing, most of them have bed covers.
- Mr. Reitz: I, too, would like to question some of Professor Erickson's previous comments. In some of the written material that we have been examining, one finds references to common service rooms and electric irons. Soviet soldiers never saw an electric iron twenty years ago. Neither did they have the clubs, tearooms, and libraries which we've read about. Nowadays, the Soviet soldier does have some amenities. It's not like twenty years ago when pigs were kept in the barracks latrine during the winter.
- Mr. Gary Crocker: I wonder, too, whether or not the conditions of military life have changed relative to the living conditions in the civilian sector. The Soviet conscript is taken from the civilian sector; he's in the military for awhile; and then he returns to the civilian sector. I have heard stories which reflect big improvements in Soviet military life, but in looking over the evidence during the past few years, I don't find that to be the case. Instead, I find that there really isn't a service club where there was supposed to be a club. It was never built. I've seen the movies that they make here and there, but when you talk to the soldiers who were stationed at these locations, you learn that things aren't all that great. There have been some improvements, but over the past twenty years, it hasn't been that much.
- Dr. Feshbach: Maybe, they're just talking about a corner of the barracks building instead of a club.

Question:

Professor Erickson, to what do you attribute the decline in the prestige and desirability of a military career in the Soviet Union?

Several Soviet sociologists surveyed a group of graduating high school seniors in Moscow on the subject of their career preferences. A big change in the preferences of Soviet youth during the past two to three years has been the decline in prestige of an engineering career. The prestige of a writing career, on the other hand, has gone up. In the unpublished section of this survey, there was evidence that there has also been a decline in the prestige of the military career. Could that be somehow linked with the poor living conditions of Soviet military personnel?

• Professor Erickson: I think that the principal factor behind this apparent decline in the prestige of a military career is that, as a good electronic engineer, an individual can obtain a lot of the things that were previously more available in the military. One important feature of Soviet military life has radically changed, and that is the practice of allowing officers to stay in the service until they were quite old. Once in the military service, the officer was relatively secure, and the service provided a means of obtaining housing, an education, prestige, promotions and other things. Personnel who should have been eliminated from the service years ago stayed on because the military service was a privileged environment. Now, of course, it simply is not so, for the military is only relatively privileged. Incidentally, the Soviet Air Force has one advantage over the other Services because an individual's flying pay is calculated on the basis of the type of aircraft that he flies. As a Lieutenant Colonel, 30 to 35 years old, a Soviet officer in the Air Force may have completed his entire flying career. So his flying time in supersonic, high-performance aircraft adds to his service pay, and he leaves the service being very highly paid. Therefore, from the standpoint of pay, the Soviet Air Force officer is still in a privileged position. Of course, this does not apply to the Ground Force regimental commander who has no prospects of such flight time.

Hence, the social, political, and personal options which are now available to Soviet youth if they select a military career are at least as readily available in absolute terms if they select certain civilian careers. Before, there was a big contrast in both absolute and relative terms. This is something which worries the planners very much.

Observation:

We have discussed many factors with regard to Soviet military and civilian manpower today -- some of which are countervailing and which

will affect capabilities. We have also spoken of the increasing technical complexity of military equipment with which Soviet officers must be familiar. We talked, too, about communications, for improved communications place a greater load on the lower unit commanders and creates functional management problems in many areas. This is a phenomenon which, I think, all modern military establishments must face. We discussed the impact of technology, and more specifically and more importantly, we talked about the Russian syndrome of resisting change -- "If it's working, don't fix it." Nevertheless, we have seen modernization, organizational change, and the creation of new elements or components which I would submit are largely the result of new technology. It seems to me that technology is a major factor insofar as changes in strategic and national planning are concerned.

- LTC John Todd: Both Professor Erickson and Dr. Feshbach suggested an impending crisis in the Soviet Union which will result from an increasing discontinuity between the pressures of advancing technology and the organizational attitudes necessary to cope with them in the basic structure of both the Soviet and Russian societies. If this is so, we should devote particular attention to such questions as:

-- If the Soviet Union and the Soviet military are faced with a crisis which their present system will find to be insoluble and if they wish to keep their basic system, what can they do to resolve this predicament?

-- If they decide to do something drastic to solve their problems, would their course of action be likely to affect us?

- Captain William Manthorpe: I would like to suggest some of the implications of our discussion today for the U.S. Navy. Over the past several years, the U.S. Navy has begun to recognize the Soviet challenge at sea. It is relatively easy to identify and count the Soviet ships in their order of battle, to recognize the characteristics of their weapon systems, and to monitor the types of operations which they conduct. Because this information is available, we have a fairly good insight into the strength and capability of the Soviet Navy. But, we don't know anything about the operational readiness and the combat effectiveness of the Soviet Navy. We think that a way to find out about its operational readiness and combat effectiveness is to learn more about the people who man the ships, who shoot the weapons, and who make the plans for their naval operations. In this context, we are just now beginning to turn our attention to the fact

that there are people in the Soviet Navy, that these people have a national character, that they receive certain types of training, and that this national character and training bear implications for the readiness and the effectiveness of the Soviet Navy.

- Dr. Steven Canby: I would like to reinforce some previous remarks. Both the U.S. Army and the West German Army are now beginning to adopt German armored tactics used on the Eastern Front during World War II. These tactics consist of a series of short jabbing counter-attacks all along the front which are designed to disrupt direction systems -- they are becoming a key element of our whole defensive concept. If the Soviet system does have organizational and control problems, these tactics appear to be valid. If, however, the GSFG is a very good army, much like the German Army used to be, then they might be invalid.
- Mr. Gallagher: From what I have gathered from our discussions today, the Soviet Union is going to encounter manpower problems of increasing magnitude in the near term. Therefore, they are going to have to become more efficient, which means that they must continue to modernize their industry through the application of new technology. This would seem to provide us with some leverage, though this leverage may be quite limited. We must remember that the Soviet military is a force unto itself and, if we were to attempt to exert our leverage too strongly, the Soviet regime might well back off and the Soviet military would just take all that it needs from the civilian sector and Soviet society will take the hindmost.
- Dr. Feshbach: The question is whether or not the regime can resist the expanded aspirations within its society.
- Mr. Gallagher: The problem for us is that of drawing the fine line between being able to apply firm, but steady, leverage -- giving the Soviets what they want without going so far that they feel that they must resist whatever we are trying to do.

APPENDIX H

SOME EXTRACTS FROM SELECTED ARTICLES

BY SEMINAR PARTICIPANTS

Some Extracts from Selected Articles
by Seminar Participants

INTRODUCTION

In the interests of providing the seminar participants with a brief, initial insight into some of the thinking and published research of the panelists (as well as several participants) pertaining to Soviet defense manpower, a selection of articles was compiled and distributed to each of the participants prior to, or at the beginning of, the seminar. Because this selection of articles appeared to be useful to the seminar participants, extracts from the articles are presented in this appendix so as to afford the reader a similar insight into published research of the panelists. A summary of the articles provided to each participant is as follows:

- "Soviet Military Manpower: Some Observations" by Professor John Erickson from his full-length issue of the United States Strategic Institute Report 76-2 on Soviet-Warsaw Pact Force Levels, 1976.
- "An Informal Discussion of Soviet Demographic Trends" by Dr. Murray Feshbach from a report on Economic Conflict and National Security Research by GE-TEMPO, GE 77 TMP-5, which was published February 22, 1977;
- "The Military Potential of the Russian Merchant Marine" by James T. Reitz in East Europe, an international magazine, June 1972;
- "Civil Defense in the U.S.S.R." by Harriet Fast Scott in the Air Force Magazine, October 1975;
- "Soviet Military Manpower" by David A. Smith¹ in the Soviet Aerospace Almanac issue of the Air Force Magazine, which was published in March 1977; and

¹ A key seminar participant.

- "The Militarization of Soviet Society"² by Colonel William E. Odom in Problems of Current Communism, Volume XXV, September-October 1976.

"SOVIET MILITARY MANPOWER: SOME OBSERVATIONS"³
BY PROFESSOR JOHN ERICKSON

To arrive at an accurate overall figure for Soviet military manpower presents a number of formidable difficulties. The simple aggregate of some 2.5 million men under arms scarcely takes account of the complexity of the Soviet system, not to mention those security forces (KGB Border Guards and MVD internal security divisions) which can hardly be dismissed as mere "paramilitary" forces. There are a number of ways of looking at this problem, which will take account of the issue of what constitutes "military manpower" -- understood here to mean that assembly of military personnel directly entered into the armed forces, that same personnel with its supplements engaged in implementing command and control functions as well as carrying out support functions immediately related to combat effectiveness, the internal military training machine and training personnel assigned to immediate pre-induction military training programs (for this is intended to reduce training time while the conscript is actually in the ranks and thus speed up the onset of "on-the-job" training) and, finally, short-term or more immediately ready reserves. It should also be noted that the Soviet civil defense program has a military structure and is staffed by a cadre military element.

For these purposes, the "base military manpower" strength of the Soviet armed forces is taken to be 3,424,000 -- which, however, is simply an intake and establishment figure. Adding the command staff, training and the "extended service" (sluzhba sverkhsrochnaya) elements on an average basis, this would produce an overall figure of 4,109,000. The

² This article was included in the selection in light of its obvious relevance, though its author (an invited panelist) was unable to attend due to his reassignment from the United States Military Academy to the National Security Council.

³ An extract from Soviet-Warsaw Pact Force Levels, United States Strategic Institute Report 76-2, 1976.

all-important support functions cannot be neglected here, but a "front-line" figure of 100,000 seems to be reasonable. In addition, overall figures might be stretched by the extension of the period of compulsory military service, whereby a two-year period is being transformed into service for three years (and naval service running correspondingly at four years). The effect of keeping three or four age groups simultaneously under arms amounts to a one-third increase in manpower. One other indicator is also the manpower increase in tank and motorized-rifle divisions -- of the order of 15 per cent and 20 per cent respectively -- deployed with Soviet forces in East Germany (GSFG). Again, this has been done without increasing the nominal order of battle, but rather by expanding the internal establishment (and also filling out the equipment establishments, by which a motorized-rifle division now has 50 percent more battle tanks than some four or five years ago).

The military training and military educational establishment also presents singular problems: it can be stated unequivocally that the Soviet military training/education system is the largest in the world, with almost 140 military schools (for the training of officers, graduating them as lieutenants and in most cases with a qualification or degree in some professional field), and where each military officer school ranks as the equivalent of divisional command (that is, comes under a major-general), the kursanty (officer-cadet) level might be set at some 70,000 with one-quarter or one-fifth passing into the Soviet armed forces as junior officers (an annual officer intake of some 15,000 -- and this must also be balanced by the number of middle-grade officers proceeding to the reserve after completion of their service).

There is also the problem of the manpower disbursed by the Directorate of Pre-Induction Military Training, headed by General-Lieutenant A. Popov (Ministry of Defense Directorate). This organization is responsible for the military training of Soviet youth, those at school, in factories and on collective farms, providing basic military knowledge and a formal program of 140 hours of instruction over a three-year period: this program is run by reserve officers and reserve NCOs, seconded to the Directorate, forming part of the plan for "military-patriotic and mass-defense work." The object, in General Popov's own words, is to insure that "the new soldiers, upon entering military service, can immediately perform military duties and master a military specialty. After all, they are already acquainted with military order and regulations, and have learned to fire a machinegun, and movement on the battlefield..."

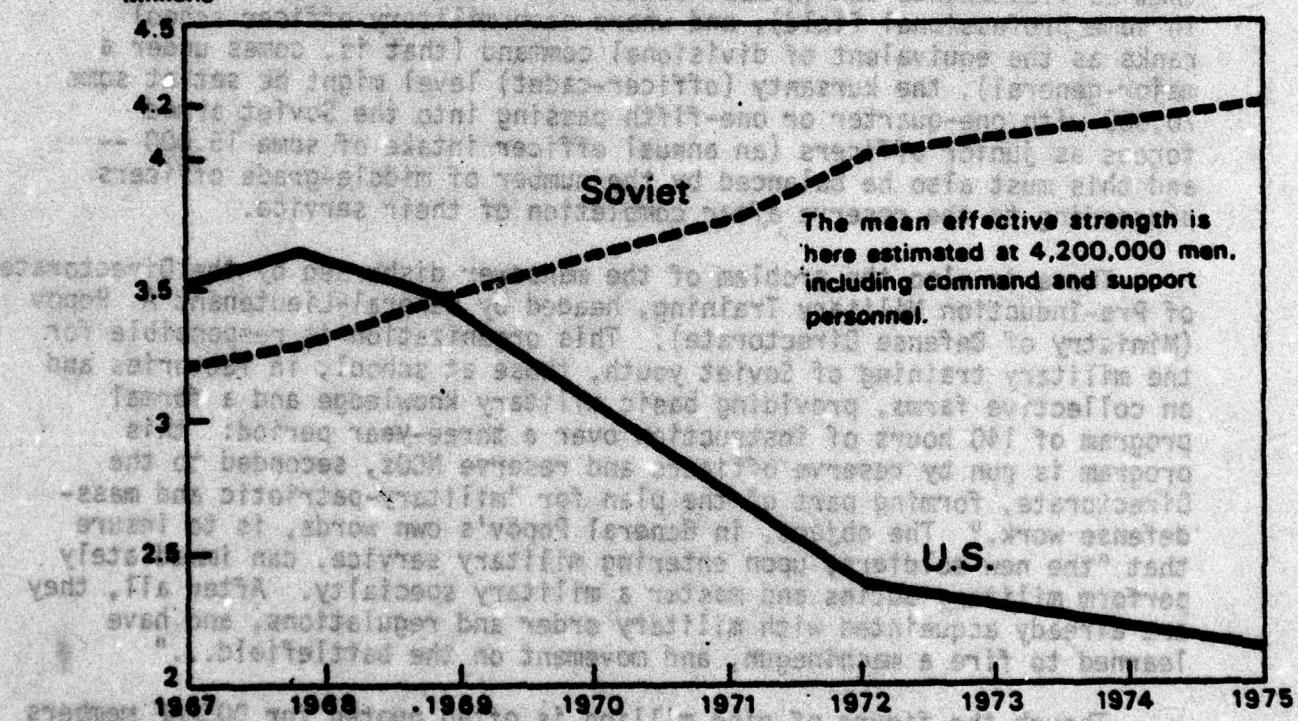
Though the figure of nine million is often quoted for DOSAAF members (another major military training program for civilians), it is likely that the effective strength is very much lower than the overall membership figure.

Finally, while not an issue of actual order of battle, the KGB Border Guards and MVD formations are by no means "paramilitary" elements, equipped as they are with a whole range of infantry weapons.

APCs and armored fighting vehicles, as well as aircraft and helicopters. Adding in this total of militarized manpower -- 300,000 for both services -- as well as the "training/education" machine, brings the manpower level well over the five million mark: to be precise, 5.4 million, though this hardly touches on the main question of "effectives."

The figure for "effectives" (including command and support personnel) adopted here is about 4,200,000; the increment for training, direct military education (officers) and "immediate reserves," as well as the associated military forces of the KGB and the MVD, raises that figure to five million, though here not all can be regarded as "effectives" in the true sense.

MANPOWER



The mean effective strength is here estimated at 4,200,000 men, including command and support personnel.

bio-1981 and 1982 and 25 reports totaling 600,000 to study a
"AN INFORMAL DISCUSSION OF SOVIET DEMOGRAPHIC TRENDS"⁴

BY DR. MURRAY FESHBACH

The Civilian/Military Competition for Labor: A Crisis in 1983

In order to examine the competition for labor, it was necessary to study military manpower requirements. In this context, I've constructed a hypothetical model, which is reflected in the Joint Economic Committee paper.⁵ If you take the changing size of cohorts of males of military draft age (18 years old) in 1975, this group is represented by a figure of around 2,500,000. By 1987, this figure drops to a low of around 2 million. However, simultaneously, there is a growth in the full-time education of those at higher levels (beyond general secondary, from 18 years of age and older). This group expands to around 500,000 at about the midpoint in this period as a drawdown from the males available for military service. This pool is further reduced by only a very small number of deaths. Emigration is virtually negligible, so it can be disregarded. In addition, however, there are some deferments (some of which are permanent and some of which are only temporary) for which the model makes some adjustments. All of this is summarized in Table 7 which follows:

TABLE 7. PERSONS OF ABLE-BODIED AGES AVAILABLE
FOR MILITARY SERVICE (All data refer to 1975)

Size of the 18 year-old cohort (able-bodied agents)	2,500,000
Educational Deferments	-500,000
Non-Educational Deferments	-250,000
Temporary Deferments and Expired Exemptions	+200,000
18 year-olds available for military service	1,950,000

⁴ From Economic Conflict and National Security Research by Rex D. Minckler and Richard G. Rebh, GE-TEMPO report GE 77 TMP-5, February 22, 1977.

⁵ Soviet Economy in a New Perspective, a compendium of papers submitted to the Joint Economic Committee, Congress of the United States, October 14, 1976.

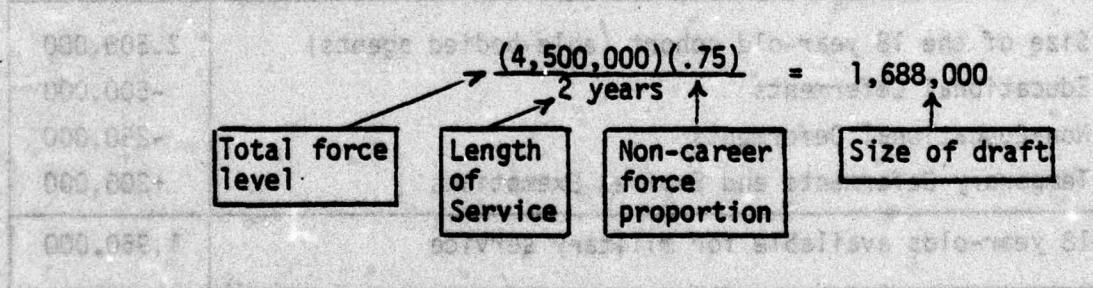
A figure of 1,950,000 therefore emerges as the size of the 18-year-old cohort available for the draft.

Given this pool of eligible 18-year-olds, the next issue is to determine the size of the Soviet manpower pool needed annually to maintain the current level of Soviet Armed Forces. Let's assume that 4.5 million is the total number of men currently in the Soviet Armed Forces. According to some people, this figure is higher and may approach 5.2 million. Of course, the higher the force level, the more difficulty the Soviets will have in maintaining it and a larger draft will be required. However, 4.5 million is a good estimate; it gives the Soviets the benefit of the doubt.

Next, we need a ratio of career force personnel to draftees (non-career force personnel). From information available to me, using a career force proportion of 25 percent is a reasonable estimate; hence, the non-career proportion would be 75 percent. These, then, are the categories which the draft must satisfy.

The last component in the equation is the length of military service of draftees. Two years, I believe, is a good average figure, because most Soviet personnel are drafted for two years of service. Sailors and members of certain small forces must serve three years, but these personnel are balanced by graduates of higher education who are drafted to serve only one year. Two years, then, is a reasonable average.

When all the factors are put together and the arithmetic is performed, we emerge with a figure of 1,688,000 men representing the size of the force needed to be drafted in order to maintain the present level of the Soviet Armed Forces.



If we accept this output of the model to be reasonable and true (which I believe it is), then, in 1983, the Soviets will face a severe manpower crisis. They cannot fill both their military manpower needs while continuing to introduce a reasonable number of people into the labor force in consonance current patterns.

"THE MILITARY POTENTIAL OF THE RUSSIAN MERCHANT MARINE"⁶

BY MR. JAMES T. REITZ

In this article, the author describes the military uses and related implications of two Soviet commercial transportation systems which, technically, function outside the Soviet Ministry of Defense (MoD); that is, the Soviet merchant marine fleet and the Soviet railroad network. In addition to estimating the magnitude of organizational structures and activities of these systems, the author documents their military service during World War II and directs attention to their recent expansion -- especially in light of the pervasiveness of the Soviet military throughout these systems. Relevant extracts from this article on, first, the Soviet merchant marine and, then, the Soviet railroad system are as follows:

The Soviet Merchant Marine

Within the past decade, a vastly expanded and modernized merchant fleet has become a powerful political and economic instrument to advance Soviet policies on virtually all the world's oceans and seas. In any prolonged combat in Europe, it would be a very valuable adjunct to the regular Soviet armed forces, and a vital ingredient for the support of combat in the non-contiguous areas of the world. As recently put by Soviet naval sources, "The age-old dreams of our people have become a reality. The flags of Soviet ships now flutter in the remotest corners of the world's seas and oceans."

From a modest twelfth place a decade and a half ago, the Soviet merchant fleet now stands fifth or sixth among the world's fleets. No other country can compare in maritime growth rate in this period. And, reputedly, 80 percent of Soviet merchant shipping is less than 10 years old; two-thirds of the fleet is faster than 14 knots and the same percentage is diesel-powered. Many newer Soviet vessels are more highly automated than their Western counterparts.

Functions

Soviet merchant marine functions can be divided into two distinct tasks: 1) tying together by sea the widely separated Black, White, Caspian, Baltic, Far Eastern and northern coastal areas; and 2) the conduct of foreign commerce.

⁶ From the international magazine, East Europe, June 1972.

In the absence of rail and road nets, seagoing transport probably will remain for a long time the only means of significant bulk supply of much of the Soviet northern and Far Eastern coasts.

Like other transport and most other Soviet economic activity, the merchant marine is a state-operated activity. An all-Union ministry provides policy planning and guidance and a number of subordinate steamship lines carry out daily fleet operations. Anywhere from 6 to 17 individual lines are reported by various sources.

The central ministry apparently retains the functions of both ship and port construction and repair, as well as ship procurement, and other common supplies for the various fleets, ports and yards. The ministry also carries out Arctic and Antarctic operations through a Main Directorate of the Northern Sea Route. According to recent reports, new computerized and automated Moscow-centralized controls taking in all 17 lines, "1,500 ships" and "3,000 ports" provide ship location and status. Other future refinements will hopefully predict ship courses 10 days in advance, cargo alternative expedients, and other updated deployment and operation data.

Training of Personnel

The ministry has a fairly elaborate school system of two-year schools for training seamen and "middle" schools for training technicians, navigators, electro-mechanical specialists, etc. It maintains as well as numerous training ships, 4 higher schools and 12 mid-level institutes of five or more years length for training in ship handling, marine engineering, radio engineering, ship construction, hydrography, oceanography, meteorology and navigation. Capping the system is a two-year academy for senior personnel -- ship captains, port captains, and repair yard heads.

The maritime school system graduates 3,000 to 3,500 per year with more than 10,000 others in merchant marine correspondence courses. In the seven years beginning in 1959, the Merchant Marine training system reportedly turned out 24,000 specialists and 38,000 seamen, ship repairmen, and port area workers. Further enlargements and qualitative improvements of this school system is projected in the current five year plan.

Soviet sources for 1964 indicate the ministry had over 250,000 employees, 65,000 of whom are engaged in actual "hauling operations." Maritime fleet personnel have a distinctive uniform and system of ranks up to flag rank, similar to the regular Soviet Navy. They operate under regulations not unlike military regulations, have their own judicial system, and a rigid punishment scale; discipline is semi-military. Like members of many other Soviet occupations, they often have their own separate housing, clubs, medical service, and dependents' schools.

The Collection of Intelligence

As in the case of Aeroflot, the opportunity for intelligence collection among the Soviet merchant, fishing and oceanographic fleets is considerable.

Soviet ships made 19,000 calls in 1967 at 850 ports. By 1970, they reputedly called 24,000 times at 1,000 ports in 105 countries. Soviet naval specialists have been reported assigned to merchant ships and probably to others, as well, for the collection of strategic, naval, radar, electronic, photographic, hydrographic and other forms of intelligence and the possibilities for support of subversive activity through the Soviet merchant, fishing and other fleets are significant. Striking examples of intelligence-gathering are the attempts by Soviet trawlers to pick up US Poseidon test missile parts along the south Atlantic test-run areas.

According to David Fairhall, British naval writer, in the past decade the Soviets have emerged with a solidly based world-wide program of oceanographic research and a fishing industry organized almost on military lines "in contrast to the haphazard individualism of British trawermen." . . . The Soviet trawler hulls "make convenient platforms for electronic equipment" and their oceanographic research program "is as relevant to the operations of its vast fleet of submarines as it is to the problem of catching fish."

Maritime authorities in Great Britain (which currently has the world's largest merchant fleet), regard the dynamic merchant marine program of the Soviets as second only to their space successes in over-all economic and political significance.

In addition to the present foreign policy and economic implications, there are a number of other more direct military implications for consideration.

One matter of direct military implication is the conversion capability of some types of vessels to combat roles: timber carriers to missile carriers and fishing trawlers to mine sweepers and patrol boats. There is also the logistic capability of supporting military operations, among others, by conversion of passenger liners to troop transport. Lastly, often naval personnel can be surreptitiously trained in navigation in waters not normally frequented by Soviet warships.

Lastly, the over-all philosophy of use, both in peacetime and in war, warrants comment. The authoritative Jane's Fighting Ships (1965-1966 edition) stated, "There is no doubt that the USSR regards her merchant shipping fleet not only as an essential element of the national economy at all times but as a vital fourth arm of defense in emergencies. Moreover, the Soviet Navy draws freely from the mercantile pool when it is in the interest of the fighting services, either absorbing merchant ships as naval auxiliaries or building naval vessels on mercantile lines."

The Soviet Railroads

"From the standpoint of its transportation plant and the allocation of freight and passenger traffic among the several transportation agencies, the Soviet economy . . . always has been a railroad economy. . . . Railroads . . . were built up until by 1940 they handled 87 percent of freight traffic. The Soviet economy, before, during, and since the Second World War has been dominated by rail transport," according to a Soviet source.

Not only does the rail system bulk very large in daily Soviet peacetime military functioning, but it is now, as in WW II, a vital element to the success of any Soviet military operation of magnitude.

The Soviet railway net, though smaller than the US system, is the world's largest under one management. It is state-operated, with planning and control centralized in the Ministry of Railways in Moscow and localized operations decentralized into about 30 individual roads or sub-systems. The operating length of the entire system is over 80,000 miles.

Approximately 3.4 million people are reported employed in Soviet rail transport, slightly over two million as operating personnel, and the others in ancillary activities. The size of the railway labor force, a large percentage of whom are women, has not changed markedly in twenty years, although operating personnel have increased somewhat.

The Soviet railway ministry is organized on a semimilitary footing. It has its own code of military law, a rank structure including commissioned grades and distinctive rank insignia (not unlike the pre-WW II system of rhomboids in the Soviet Army), distinctive uniforms, and tight personnel control over those leaving the railway service.

Continued operation and development of the rail system is vital both economically and militarily to the future of the USSR. The dependence on railways of the Soviet armed forces for logistical support is more marked than in any other armed forces.

Any major Soviet military operation has to be based on rail capability. The rail system could probably provide major logistical support to a war effort but the civilian economy would, as in past wars, be very seriously disrupted. While the Soviet rail system was seriously strained and heavily damaged during WW II, achievements in improvisation in that period have undoubtedly provided valuable experience factors for coping with any future dislocation of the country's rail nets.

The system is particularly vulnerable in Siberia, east of Lake Baikal where the transcontinental Trans-Siberian in some areas is less than 150 Km north of the troubled Sino-Soviet Border. The Soviet government has announced the fall of 1972 for the beginning of the first construction efforts on the long delayed BAM (Eastern Asiatic Line) which will run hundreds of miles from the Chinese border north and east around Lake Baikal some 2000 Km to Khabarovsk. This is a very difficult and ambitious engineering project through swamps, mountains, and hundreds of miles of permafrost. Two hundred bridges will be required for the project, whose completion date is years away.

"CIVIL DEFENSE IN THE U.S.S.R."⁷

BY MS. HARRIET FAST SCOTT

In this article, the author highlights the vast asymmetries between U.S. and Soviet civil defense programs. She asserts that, while U.S. civil defense has attracted little interest in Washington, D. C., Soviet leaders consider civil defense to be an important element in their strategic planning and have therefore developed an extensive civil defense program for protecting the population and the economy in the event of a nuclear war. In the extracts which follow, Ms. Scott traces the history of the Soviet civil defense program, compares U.S. and Soviet views with regard to civil defense, and concludes with some observations with regard to the possible strategic implications of apparent asymmetries between the U.S. and Soviet programs.

History of Soviet Civil Defense

Prior to 1961, civil defense was called MPVO, meaning "local air defense," and was under the control of the Ministry of Internal Affairs. In July 1961, it was reorganized on a national level to become Civil Defense of the USSR and placed under the Ministry of Defense. Its first Chief was Marshal Vasily Chuykov, Commander-in-Chief of the Ground Troops and Deputy Minister of Defense at that time.

This new status of Soviet civil defense was a result of the "revolution in military affairs," brought about by the introduction of nuclear weapons and ballistic missiles into the Soviet armed forces. A basic tenet of the new military doctrine, adopted in 1960, is that "the Armed Forces, the country, the whole Soviet people must be prepared for the eventuality of a nuclear rocket war." Civil defense was no longer a "local" affair; it became a matter of national importance.

The three groups of tasks given to Soviet civil defense are:

- Protecting the population;
- Keeping the economy going in wartime;
- Post-atomic recovery and disaster relief.

The scope of these tasks, particularly of the first, is considerably broader than the popular Western concept of civil defense, which tends to

⁷ From the Air Force Magazine, October 1975.

be limited to sheltering the population from fallout and caring for casualties. "Protecting the population" in the Soviet scheme of civil defense includes more than passive measures. It extends to mass training of civilians in the use of arms, to prepare them for active defense against attack.

Contrasting Views on Civil Defense

In contrast to the Soviet effort, Washington seems to pay little attention these days to civil defense. There are those in the United States who feel that a civil defense program instituted by either side would be destabilizing. The Soviet response to this is unequivocal:

Soviet civil defense does not incite, does not promote, and does not provide impetus to war. Its nature is decisively influenced by the peace-loving foreign policy of the socialist state. Therefore, there is no basis for the "forecasts" of Western experts that a strengthening of the Civil Defense of the USSR will lead to greater "inflexibility" of Soviet foreign policy and even to aggravation of international tension.

This statement is from a 1972 book written under the aegis of the Main Political Administration of the Soviet Armed Forces, the Party's voice in the Soviet military. And, moreover:

Improving Soviet Civil Defense, raising its effectiveness, is just one more real barrier on the part of the imperialists' unleashing a new world war. Consequently, Civil Defense of the USSR intensifies the peaceful actions of our state and strengthens international security as a whole.

The Soviet Minister of Defense and Politburo Member, Marshal Andrey Grechko, in his 1975 book, The Armed Forces of the Soviet State, asserts that civil defense is now a matter of strategic significance. In his view, "modern war demands the creation of a carefully thought-out system of measures to ensure stability of operation of the whole national economy and reliable protection of the country's population". . . .

It may be argued that, where approximate parity in ICBMs exists between the United States and the Soviet Union, an all-out attack with the nuclear arsenals of the superpowers is unlikely. However, a number of strategists believe that small "surgical" attacks, paradoxically, have become a greater possibility.

The more impossible the unthinkable becomes, the more possible a limited nuclear attack, or the threat of one. And if such an exchange should take place, or be used as a threat, the country best prepared for postattack recovery clearly will have an advantage that may be decisive in negotiations. Therefore, the nation that has a viable civil defense

000,000
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program for general nuclear war obviously will be in a better position to withstand limited attacks than will a nation that has made no preparations.

The attention given to civil defense by the Soviet Union perhaps cannot be duplicated in a free society. This does not mean that the prudent planner should not attempt to do everything possible to prepare ahead of time for such a contingency. The Soviet leadership has physically and psychologically prepared its people for the possibility of nuclear war. Western leaders have not.

"SOVIET MILITARY MANPOWER"⁸
BY MR. DAVID A. SMITH

In this recent article, the author addresses the complex, and oftentimes contentious, problem of estimating the numbers of Soviet military personnel for the purpose of conducting a net assessment of the overall U.S. and Soviet defense manpower systems. As Mr. Smith observes, there is a wealth of information pertaining to U.S. military manpower because the U.S. Government openly publishes annual facts and figures with respect to its military personnel -- which the Soviet Government does not. Citing the progress which has been made in addressing this problem, the author noted that improved Department of Defense estimating procedures have resulted in an increase in the estimate of Soviet military manpower from 3,500,000 in 1965 to 4,800,000 in 1975. In discussing what we do and do not know with respect to Soviet military manpower, David Smith stated that:

What We Do Know

An estimate of Soviet military manpower derived from open sources is:

⁸ From the Soviet Aerospace Almanac issue of the Air Force Magazine, March 1977.

Strategic Rocket Forces	375,000
Ground Forces	1,825,000
Air Defense Forces (PVO)	550,000
Air Forces	490,000
Navy	370,000
Ministry of Defense, Headquarters Staff, various types of support troops	800,000
Total	<u>4,410,000</u>
Border Troops and Internal Security Troops	400,000
Total	<u>4,810,000</u>

(Some observers believe that effective Soviet forces should be reduced by from 800,000 to 1,200,000 to compensate for lower productivity in the Soviet Armed Forces and for nonmilitary functions performed by some kinds of Soviet troops, i.e., Construction Troops.)

Detailed unclassified comparisons of US and Soviet military manpower are not possible because of security restrictions and limited knowledge of many aspects of the Soviet program. A few points can be made, however:

- The two systems are dissimilar in many ways, reflecting the basic differences between free enterprise and Communist systems. For example, the Soviets use military forces for such tasks as railroad repair, crop harvesting, and construction. They apparently have proportionately fewer civilians in their defense establishment, and many more military directly involved in operating R&D and production facilities.
- The Soviet reserve system does not directly relate to ours. Most of their reserves are in categories that more nearly approximate our unpaid reservists.
- Much or all of the Soviet Border and Internal Security forces are not available for use outside the Soviet Union. The large size of these forces reflects the feeling of insecurity that characterizes the Soviets. Some military units inside the Soviet Union and, as events over the last twenty years have shown, some in Eastern Europe probably are also for control of the local civilian population.
- A rough adjusted comparison on the US side includes:

Active Military	2,100,000
Coast Guard	36,000
Estimate of DoD superiority over MoD in number of civilian employees	300,000
	<u>2,436,000</u>

The uncertainty suggested above is the essence of the problem of making a rational comparison between US and Soviet military manpower

and capabilities. Additionally, any assessment of overall capabilities would have to include both Warsaw Pact and NATO manpower, which favors NATO.

There are some who hold that not all Soviet personnel in uniform should be counted, since many perform support functions for which there are no counterparts in our own armed forces or that are performed by US civilians. Others feel that all Soviets in uniform receive considerable premilitary training in the civil school system or through the hugh "DOSAAF" paramilitary organization. Also, according to our current understanding, all troops receive up to six weeks of additional training in military skills after induction regardless of what duties they will later perform.

The 1967 Soviet Universal Military Obligation law specifies that after initial active military service all persons will be "discharged into the reserve." The same law also generally extended the length of each individual's reserve obligation. The following applies to enlisted personnel and warrant officers:

<u>Class I</u> (through 34 years)	<u>Class II</u> (35-44 years)	<u>Class III</u> (45-49 years)
4-6 call-ups of 3 months each	1-2 call-ups of 2 months each	1 call-up of 1 month

The Soviets do not have a system of organized reserves such as ours, although each Soviet reservist has a mobilization assignment. Judging from comments in the Soviet press, it is believed that many of those discharged into the reserves fail to conform to this call-up refresher training schedule. With the normal two-year enlistment (except for the Navy categories previously noted), somewhere between 1,200,000 and 1,500,000 are discharged into the reserves each year. Regardless of whether refresher call-ups are met according to regulations, a large number of trained men -- or men who have had active service within a five-year period -- are readily available. Because Soviet training is narrow and specialized, a large percentage of these reservists would probably retain a high enough level of expertise in their specialties to meet the demands of their recall assignments.

What We Don't Know

In the United States, understanding of Soviet strategic weapons systems, conventional hardware, and order of battle has had priority. We have a good idea about the size and firepower of Soviet divisions, the composition of air units, and the capabilities of their aircraft.

There are other areas in which our knowledge and understanding are less complete. For example, what is the quality of Soviet military training, performance in the field, leadership? How reliable are Soviet troops? These questions are as relevant to an assessment of the military balance as are data on active-duty and reserve strength and the manpower pool.

Several types of Soviet forces are known as "elite" troops -- the Strategic Rocket Forces, the Border Troops, and some units in the Group of Forces in Germany. Other Soviet elements are thought to be marginal. For example, those manning air defenses in European Russia and many troops stationed in Siberia. Furthermore, forty-year-old reserve truck drivers may perform well in certain circumstances, such as the Czechoslovakian invasion of 1968, but what about forty-year-old reservists in heavy combat? Does narrowly specialized Soviet training assure longer retention of military skills or could this narrowness reduce flexibility and initiative to the point of being counterproductive?

How long might a Soviet Air Army fight a sustained engagement against NATO forces? Staying power depends on spare parts, fuel, maintenance -- a huge logistical effort that requires people with a wide range of training and skills. A great deal more study and analysis of Soviet support capabilities needs to be done before reliable comparisons can be made of Soviet and US abilities to sustain combat in a protracted conflict.

How does mobilization under the Soviet military commissariat system compare with the mobilization potential of our Reserve Forces and standby selective service? How do Soviet and US scientists and engineers engaged in military R&D compare in numbers and quality? How rapidly could Aeroflot (managed even in peacetime by active-duty Air Force generals and headed by a Soviet Marshal of Aviation) be mobilized for military duties? How efficiently could it operate at sustained high utilization rates?

We know a great deal about Soviet hardware and about some combat elements. We also have general data relevant to the Soviet Armed Forces as a whole. But lacking specific, detailed information on the entire Soviet military structure -- especially in the areas of command, training, and support -- an accurate assessment of the impact of manpower asymmetries on the US/Soviet balance is doubtful. Are we overestimating or underestimating the USSR's capability for sustained combat?

For the long-term, trend data must be generated. Point-in-time comparisons of manpower and dollars/rubles are interesting, but of limited value unless we also know the trends in these data. Recently, both Soviet manpower and rubles allocated to defense have been increasing. Better understanding and higher confidence in assessing these trends are needed. How good are the numbers? How significant are the trends?

In the final analysis, we are trying to perceive the capabilities of the Soviet military forces and the intentions of the Soviet leadership. To do this with reasonable confidence, a more complete understanding of Soviet military manpower is essential.

"THE MILITARIZATION OF SOVIET SOCIETY"⁹

BY COLONEL WILLIAM E. ODOM

Conclusions

One can hardly explore the labyrinth of Soviet military training programs and structures without coming away with a sense of their pervasiveness and integration into all aspects of Soviet life. By the time a child is in the second grade, he receives his first formal instruction in survival in nuclear war. He learns not only that survival is possible but also how to go about saving himself personally. By his mid-teens, he confronts the "military supervisor" of his secondary school. About the same time, the local military commissariat is suggesting that he "volunteer" for one or more of the specialized military training courses offered by DOSAAF organizations. By age 18 or 19, he expects to be called to two years of active military service. If he matriculates at an institute of higher learning, he implicitly commits himself to becoming a reserve officer. If he wants to pursue any of a number of engineering specialties at the graduate level, he will learn that the best training in those areas -- sometimes the only training -- is found in military research facilities and in the graduate programs of military academies and schools. Even if he is a gifted musician and makes his way to the Moscow State Conservatory, he will not escape the militarization of Soviet education, for there he will find a military music department with generals as professors of directing and composition.¹⁰ If he becomes an economist and finds employment in GOSPLAN, discovering a General-Colonel in the post of a deputy chief would hardly surprise him.¹¹ Throughout his adult life, the omnipresence of the military will strike him as normal, to be expected. He does not see the military as a thing apart but as something of which he is a part.

He will not find it strange -- even though he probably will consider it onerous -- to be importuned for contributions of money and time to the local DOSAAF programs long after he has lost interest in "military sports" such as shooting, parachuting, and tank-engine repair. Nor will he be outraged at finding himself on a civil defense decontamination team in the factory, farm, institute, or school where he is employed. He may resent the training sessions and may not put his heart into such forms of "continuing adult education" in the arts of modern warfare, but it probably

⁹ From Problems of Communism, Volume XXV, September-October 1976.

¹⁰ See the obituary of General-Major I. V. Petrov in Krasnaya Zvezda, June 6, 1975.

¹¹ For example, at the time of his death in July 1974, Engineer General-Colonel V. Ryabikov was serving as a first deputy chief of GOSPLAN. See Krasnaya Zvezda, July 22, 1974.

would not even occur to him that Soviet society is abnormal in displaying so many aspects of a "garrison state."¹²

We have suggested at least two sources of this militarization of Soviet society. First, socialism, as a political ideology and as a guide to social and economic organization, correlates highly with war-like states. It would, of course, be wrong to say that socialism per se causes a polity to militarize. As Quincy Wright has observed, "socialism is more often developed from necessity than from theory, though in recent instances the latter has played a part."¹³ The necessities can vary, but leaders inspired by various necessities frequently turn to the same ideological banner to justify militarizing programs. The reason is not far to seek. Socialism emphasizes the social or public interest over the interests of individuals. And that is precisely what a state and its army must do in war -- sacrifice individuals and their private interests for the state's political objectives.

When the Bolsheviks took power, the very act was a declaration of war on society throughout the old regime's imperial territories. The ensuing internal war has waxed hot and cold throughout the nearly sixty years of Soviet history. Army General V. G. Kulikov, Chief of Staff of the Soviet Armed Forces, declared in 1973 that the Soviet military's "internal" role had virtually ended, giving way in the present stage of "developed socialism" to a growing "external" role not simply to defend the Soviet Union but also to secure the expanding territories of the socialist bloc.¹⁴ Kulikov may be excessively optimistic about the internal front, but his notion of a regime at war at home and abroad is instructive and cogent.

The second major source of the militarization of Soviet society has been the military-political tradition of the Tsarist empire. Before the advent of the Bolsheviks, the old regime had already been at war internally. If urban industrial strikes were relatively new in Russia at the turn of the century, peasant disorders and armed opposition by ethnic minorities in the borderlands were chronic. The empire ensured its own collapse

12 We are mindful of the special meaning which H.D. Lasswell has given to the concept of a "garrison state" in his World Politics and Personal Insecurity, New York, McGraw-Hill, 1935. The likelihood of war and the threatening character of the international environment would, in his view, incline political leaders to become increasingly dependent on their military chiefs, allowing the latter to exert influence on the leaders to turn their societies into military camps continually preparing for war. In this scheme, international factors are the primary causes of domestic political changes leading to the garrison state. The present author would argue, however, that domestic rather than international factors are a more important primary cause of the garrison condition in the Soviet Union.

13 Op. cit., p. 1165.

14 Krasnaya Zvezda, February 23, 1973.

when, in addition to internal struggles, it entered a vast foreign campaign on its European borders. The upshot was that the Bolshevik regime, arising amidst these unresolved and precarious military circumstances, both internal and external, had to accept as its birthright most of the tensions that had made militarization of the old state seem imperative to the imperial leadership.¹⁵ Thus, the Tsarist military-political tradition was genetically transmitted to the Soviet regime.

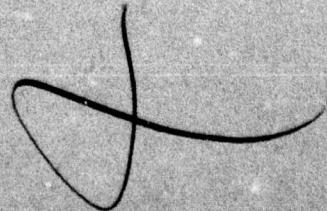
One is forced to conclude, therefore, that the militarization of Soviet society is neither an aberration nor an unusual or extraordinary state of affairs. It is a traditional policy which is merely being currently expressed and justified in Marxist-Leninist ideological terms. When it comes to the future, it is important to recognize that the key problems that gave rise to the Tsarist military-political tradition in the first place and that were inherited along with that tradition by the Soviet regime -- the peasant-agricultural problem, the nationality problem, and the foreign policy problem of a colonial, expansionist power -- have remained largely unsolved despite the strong efforts of the Soviet leadership. If it cannot be said that the application of Marxist-Leninist ideology caused these problems, it can be argued cogently that it exacerbated them. Thus, both sources of the impetus to militarize persist today. We should not expect, therefore, that Soviet society will be spared the policies of militarization in the foreseeable future -- unless there are significant changes either in the economic and social structure or in the ideology that shapes the leadership's thinking.

15

On the Bolshevik military birthright, see Bertram Wolfe, "The Influence of Early Military Decisions Upon the National Structure of the Soviet Union," American Slavic and East European Review (New York), No. 9, 1950, pp. 169-79.

APPENDIX I

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